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ABSTRACT

Four studies were conducted to determine the effect of motivational characteristics on the English achievement of French-speaking Canadians. An attitude/motivation battery covering 38 variables was administered to 304 secondary school students in Montreal. A factor analysis was performed which reveals four dimensions: integrative motive, self-confidence with English, academic achievement, and alienation. In a second study, results for several of the variables in the first study were analyzed in a comparison of predictive value of six models related to persistence, and six related to competence in English. In the third study, a battery similar to the one used in the first study, but with a revised set of variables, was administered to a similar population. Factor analysis revealed the dimensions of integrative motive, academic achievement, and self-confidence with English. The final study used results of the third study to evaluate the predictive power of models, using an analysis similar to that of the second study. (JB)

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Richard Clément

MOTIVATIONAL CHARACTERISTICS OF FRANCOPHONES LEARNING ENGLISH:
PREDICTIVE AND DESCRIPTIVE ASPECTS

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CHAPTER 1

Introduction

Statement of the Problem

Second language acquisition has, in the past, been a phenomenon of considerable interest to psychologists. Researchers concerned with the motivational aspects of second language acquisition have studied the effects of inter-ethnic contact (e.g. Bicknese, 1974; Cembalo, 1973; Clément, Gardner & Smythe, 1977; Deutsch & Won, 1963), type of second language program (e.g. Riestra & Johnson, 1964; Donoghue, Beneteau & McInnis, 1975; Smythe, Stennett & Feenstra, 1972) and community needs (e.g. Yalden, 1975; Turner, 1974; Reinert, 1970; Pritchard, 1935; Jaremko, 1974) on the individual's motivation to acquire fluency in a second language.

Other researchers have been more concerned with the identification and assessment of the intervening processes mediating the effects of these environmental factors on the resulting level of second language competence. This latter type of research has generally focused on two inferred processes hypothesized to mediate the individual's second language competence, namely, his linguistic aptitude and his motivation to become fluent in a specific second language. Considerable research has been devoted to the assessment of individual differences in language aptitude and the relation of these to second language achievement (e.g. Carroll, 1958, 1962, 1963, 1967; Carroll & Sapon, 1967; Pimsleur, 1963).

Recent research has, however, departed from this interest in language aptitude as a mediator of second language acquisition and has been extended to include social-motivational factors as well. The reason underlying this latter interest can be seen as twofold. First, to a greater degree than aptitude, motivation is potentially subject to change. Presumably then, second language competence could be affected by altering the individual's motivation. Second, if motivation to learn a second language could be shown to be anchored in social as opposed to personal characteristics of the individual, this would have important theoretical implications. It would permit the integration, in a single comprehensive framework of the beliefs and values held by a given community and the individual member's potential for interpersonal interaction outside his own linguistic group.

The research related to these motivational aspects of second language acquisition stems both from educational settings (e.g. Yalden, 1975; Wittenborn, Larsen & Mogil, 1945; Wallach, 1973; Taylor, 1974) and from psychological settings (e.g. Gardner & Lambert, 1959, 1972; Gardner & Smythe, 1975; Segalowitz, in press). Educators were interested in the motivational processes involved in second language acquisition because of the obvious implications those processes have for effective training in a second language. Psychologists, for their part, were interested in those processes because of their implications for interpersonal communication, especially in a culturally diversified country such as Canada. To this date, the research and theorizing related to social-motivational variables in second language acquisition appears to have developed mainly within a psychological framework.

The only paradigm in which motivation was systematically studied in relation to aptitude and second language competence, is that formulated by Gardner and his associates (e.g. Gardner & Lambert, 1959, 1972; Gardner & Smythe, 1975). The initial study attempting to relate motivation, aptitude and competence in a second

language was conducted by Gardner and Lambert (1959). The hypothesis tested by Gardner and Lambert (1959) was derived from Ervin (1954). Ervin (1954) suggested a process by which the individual's proficiency in a second language was linked to his attitude toward the second language group. She adapted Mowrer's (1950) two process theory of first language acquisition to the acquisition of a second language. Mowrer (1950) contended that the parents' activities are rewarding to the child because of their frequent association with the satisfaction of his needs, and that since these activities are often paired with vocalizations, the vocalizations will acquire secondary reinforcing properties. The sounds, uttered by the child himself, will also have those reinforcing properties. This tendency of the child to imitate his parents, Mowrer calls "identification". Ervin (1954) suggested that a similar identification process operates in the case of second language acquisition. Positive attitudes toward the second language speaking group, as well as a desire to integrate oneself in its culture, should provide the basic impetus for the acquisition of the language spoken by that group.

Gardner and Lambert (1959) thus hypothesized that the individual's motivation to learn a second language was anchored in his attitude toward the second language speaking community. They administered, to a group of grade 11 anglophone students from Montreal, a series of tests of attitude and motivation which were subsequently factor analysed together with measures of language aptitude and teacher's ratings of the student's French proficiency. The resulting solution revealed that two factors were associated with French proficiency. One of these was defined primarily by indices of aptitude and intelligence, supporting the conclusion already made by Carroll (1962) that second language proficiency is related to individual differences in aptitude. The second factor revealed that attitudes toward French Canadians, a motivation to learn French and an "integrative orientation" were also related to proficiency in French. The "integrative orientation" refers to the "willingness to be like valued members of the (second) language community" (Gardner & Lambert, 1959, p.271).

Since the original Gardner and Lambert (1959) research, many studies have demonstrated the relationship between attitudinal variables and achievement in French as a second language, both in Canada (e.g. Feenstra, 1969; Smythe, Stennett & Feenstra, 1972) and the United States (see Gardner & Lambert, 1972, Chapters 3 and 4). Other studies have investigated the relationship between attitudes and achievement in other second languages (Anisfeld & Lambert, 1961; Gardner & Santos, 1970). Those studies generally support Gardner and Lambert's (1959) contention that the "integrative orientation" constituted a major element of the individual's motivation to learn a second language and was an important determinant of his actual competence in the second language.

More recently, Gardner and Smythe (1975) developed and validated an attitude/motivation battery assessing a wider range of variables than those previously investigated. In this project, factor analyses of the data collected from students in grades 7 to 11 in London, Ontario, revealed that a number of attitudinal variables including attitude toward francophone communities, the French teacher and the French course, as well as motivational indices were consistently associated with an integrative orientation. Gardner and Smythe (1975) suggested that this cluster of variables reflected an "integrative motive" (c.f., Gardner, 1966). The integrative motive essentially differs from the integrative orientation in that the former includes attitudinal and motivational properties, while the latter refers only to the student's reasons for studying French in order to become a member of the second language community.

The integrative motive was reported by Gardner and Smythe (1975) to be associated with two aspects of the student's second language acquisition behavior. First, congruent with previous findings, the integrative motive was found to be correlated with the student's proficiency in French. Second, the integrative motive was found to be associated with the individual's persistence in learning

French. Bartley (1969, 1970) had originally found that the student's tendency to re-enroll in French was related to his attitudes toward learning the second language. Gardner and Smythe's (1975) results supported this finding, but extended it to include a number of attitudinal correlates. The configuration of attitudes related to the tendency to re-enroll in French was the same as those comprising the integrative motive leading to the conclusion that the integrative motive was important in determining persistence in second language study. Since the Gardner and Smythe (1975) study, the "integrative motive" has also been shown to be related to the individual's spontaneous use of French in an inter-ethnic contact situation (Clément, Gardner & Smythe, 1977) as well as the student's participation in French class activities (Gliksman & Gardner, 1976).

The "integrative motive", however, has not been the only attitudinal cluster found to be associated with second language achievement. In the Philippines, where a large American economic influence exists, Gardner and Santos (1970) found that achievement in English by Tagalog speaking high school students was positively associated with the desire to learn the language in order to achieve pragmatic goals such as a good job or social recognition, an orientation which was earlier referred to as "instrumental" by Gardner and Lambert (1959). Furthermore, the "instrumental" orientation was also found to be related to the second language achievement of American students (see Gardner & Lambert, 1972, chapter 3). However, for all samples tested in those studies, the "integrative orientation" also had a positive influence on the acquisition of second language skills. For Filipino and American students, then, both instrumental and integrative orientations were concurrently important.

In Canada, while research on the attitudinal and motivational factors underlying the acquisition of French by anglophones is particularly abundant, little similar research has been conducted with francophones learning English as a second language. Marc Gagnon (1970, 1972, 1973) was probably the first researcher to study systematically French Canadians' attitudes toward learning English. Gagnon developed a scale assessing francophones' attitudes toward learning English. This scale yielded a high level of internal consistency (see Gagnon, 1970). Gagnon (1972) used his scale to assess the nature of the sociometric parameters related to differential attitudes toward the learning of English by Québec francophones. Of these factors, region of residence, sex, age, father's occupation, political attitude, motivational orientation, public communication language, and school environment all seem to have some influence on the students' attitude toward learning English.

In the Gagnon (1972) study, orientations of an "instrumental" nature were endorsed more frequently than "integrative" orientations. However, "integratively" oriented individuals showed a more positive attitude toward learning English than those who were "instrumentally" oriented. A similar survey approach was used by Mareshal, Boudon and Lapierre (1973, see also Mareshal, 1976) in their study of students' attitudes toward both French and English languages in the province of Québec. They performed a content analysis of group discussions related to the individual's motivation toward gaining competence in both languages. This analysis revealed that students were both "integratively" and "instrumentally" oriented toward learning English, although the latter orientation was voiced more frequently than the former. In summary then, the research related to francophones learning English as a second language suggests that both instrumental and integrative orientations are present among the French population of Québec. While the former orientation is found more frequently than the latter, there exists evidence that the integrative orientation might be related to the individual's achievement in English (c.f., Gagnon, 1972).

The studies by Gagnon (1972) and Mareshal et al. (1973) were primarily concerned with assessing trends in the population rather than delineating the

processes involved in the acquisition of a second language. While the items contained in Gagnon's (1970) scale assumed a strong relationship between attitude toward English and attitude toward anglophones, no attempt was made to quantify this relationship. There is little doubt that the study of population parameters constitutes an important step in our understanding of the dynamics of the acquisition of English by francophones. However, a next step requires the identification of the mediating processes related to English achievement in order to identify the cognitive entities involved in the second language acquisition process of francophones.

In conclusion, the research on second language acquisition has, in the past, interested both educators and psychologists. Both the more practical point of view of educators and theoretical concerns of psychologists make it important to study the processes underlying the acquisition of English by francophones. While the framework proposed by Gardner and his collaborators has been well documented for anglophones learning French, its status as a theory of second language acquisition requires cross-cultural validity and generalizability. Furthermore, from a more practical point of view, the formulation of a linguistic policy and particularly its implementation in francophone classrooms requires knowledge of the psychological processes involved in the acquisition of a second language if such a policy is to have a realistic and rational foundation (Mareshal, 1974). The present research will therefore attempt to identify the motivational factors involved in the learning of English by francophones and further refine the concepts put forward by Gardner and his collaborators.

The Question of Prediction

In Canada, the considerable amount of money and energy devoted to bilinguality of public and private services has recently been questioned. Partly because of a policy of economic restraint, and partly as a reaction to the lawful imposition of two languages, the Commissioner of Official Languages of Canada, Keith Spicer, has recently suggested in his third annual report that, in order to protect individual liberties and cut down on inefficient bilingualism programs, a means should be developed to select those individuals who are more likely to attain a high level of fluency in the second language. In other words, in order to increase the efficiency of bilingualism programs, the development of a means of predicting second language proficiency is desirable. Bearing in mind this issue of prediction, the research outlined above on the role of attitudes and motivation in the acquisition of a second language is related to a phenomenon which social psychologists have dealt with for about forty years: the attitude-behavior relationship.

Allport's (1935) definition of attitude as "a mental and neural state of readiness, organized through experience, exerting a directive or dynamic influence upon the individual's response to all objects and situations with which it is related" (Allport, 1935, p. 810) implied that attitudes mediated behavior. In spite of early experimental warnings against such an assumption by Lapierre (1934) and Kutner, Wilkins and Yarrow (1952), it was not until 1969 that the relationship between attitudes and behavior was formally questioned. In 1969, both Wicker (1969) and Ehrlich (1969) reviewed accumulated evidence and concluded that there was no basis for assuming that attitudes were related to behavior. Wicker (1969), for example, reviewed 42 studies documenting the relationship between verbal attitudes and overt behavior. Most correlations reported were smaller than .30 with a mean of .15. Ehrlich (1969) and Wicker (1969) both concluded with the recommendation that other personal or situational factors can influence the attitude-behavior relationship and that they should be considered in future studies.

In line with that recommendation, researchers have investigated the effects on the attitude-behavior relationship of situational and normative factors (e.g. DeFleur & Westie, 1963; Warner & DeFleur, 1969; Shopler & Thompson, 1968; Wicker & Pomazal, 1971; Frideres, Warner & Albrecht, 1971; Albrecht, DeFleur & Warner, 1972; Schofield, 1975). Wicker (1971) and Ewens and Ehrlich (1972), used a multiple correlation approach including as predictors, in addition to attitude toward the object, such variables as "perceived influence of unforeseen events" (Wicker, 1971) and "reference-other support" (Ewens and Ehrlich, 1972). In contrast with the first method involving the independent manipulation of situational or normative variables, this latter approach had the advantage of treating the non-attitudinal entities on the same conceptual level as attitudes--that is, as latent concepts. However, for both approaches, it remains a problem to identify a finite number of those situational characteristics or mediational entities. These approaches neither limit nor formally specify a finite number of those "other variables" influencing the relationship between attitude and behavior.

In view of the above criticism, a model which appears to be both finite and which has high predictive validity is that suggested by Fishbein (Fishbein, 1967; Fishbein & Ajzen, 1972, 1975; Ajzen & Fishbein, 1969, 1970, 1972, 1973, 1975). Fishbein and Ajzen (1975) suggest that the performance of a specific behavior (B) by the individual is a direct function of his intention to perform that specific behavior (BI). His intention to perform that specific behavior is, in turn, an additive function of the individual's attitude toward that specific behavior (Aact) and the social norms (NB) regarding that specific behavior in that specific situation. Algebraically, this can be expressed as follows:

$$B = BI = Aact_{w0} + NB_{w1} \quad [1]$$

where $w0$ and $w1$ correspond to empirically derived beta weights. Fishbein (1963) views evaluative reactions toward the behavior (i.e. Aact) as being a multiplicative function of the belief that performing a given act will result in a given outcome (I) and the evaluation of that outcome (e), summed over all possible outcomes. Algebraically:

$$Aact = \sum_{i=1}^n (I_i e_i) \quad [2]$$

where n corresponds to the number of perceived outcomes.¹

Ajzen and Fishbein (1973) report 22 multiple correlation coefficients of the components of their equation with measures of behavioral intention ranging from .39 to .94 (median = .81). These authors also report 19 correlations of behavioral intention with behavior ranging from .21 to .97 with a median of .66. In spite of the large variation in the predictive power of the model, the variance accounted for by the elements of Fishbein's model is greater than that found in most studies reviewed by this author (c.f., Clément, 1975). The high predictive power of the model when dealing with non-laboratory-type tasks has been further supported by Davidson and Jaccard (1975) in relation to the prediction

¹It should be noted here that, in spite of the fact that Fishbein's model was derived from learning theory (Fishbein & Ajzen, 1975), it is identical to that proposed by the functional approach to attitude: the expectancy-value model (e.g. Peak, 1955; Rosenberg, 1956).

of behavior with respect to contraception. These authors report a multiple correlation of .81 between the intention to use birth control pills and the weighted elements of the model.

In spite of this high predictive power, Fishbein and Ajzen (1975) point to a limitation of this model which is relevant to the present investigation. Fishbein and Ajzen (1975, p.379) state that "the intention-behavior relation may break down if performance of the behavior depends on certain abilities or resources that the actor does not possess..." In the introduction to this research, two aspects of second language acquisition were emphasized, (a) the student's behavioral intention to pursue his study of English, and (b) his actual competence in the second language. Behavioral intention to re-enroll in the second language course was then shown to be related to the individual's motivation toward acquiring the second language. Since behavioral intention to re-enroll is under the volitional control of the student, Fishbein's model would appear to be applicable if the sum of its elements (i.e. $A_{act} + NB$) could be considered as an index of motivation. Similarly, in the factor analytic studies reported above, competence in a second language was shown to be related to the individual's motivation and aptitude. Given that $(A_{act} + NB)$ could be considered as an index of motivation and in view of the quotation cited above, it would thus seem necessary to account for aptitude in the prediction of competence by adding a third term to Fishbein's equation (i.e. $BI = A_{act} + NB$). In other words, could $(A_{act} + NB)$ be used as an index of motivation in the prediction of both persistence and competence, and could performance on tests of English proficiency (i.e. competence) be predicted on the basis of $(A_{act} + NB)$ and an index of aptitude?

The answer to this question requires the consideration of two points. First, can we consider $(A_{act} + NB)$ as an index of motivation? Second, given that $(A_{act} + NB)$ could be considered as an index of motivation, should $(A_{act} + NB)$ relate additively or multiplicatively to aptitude in the prediction of competence? While it is believed here, that the definitions underlying A_{act} and NB would allow us to consider their sum as an index of motivation, the nature of the relationship combining motivation with ability in the prediction of performance is an open empirical question.

Motivation. In answering the first question asked above, regarding the status of $(A_{act} + NB)$ as an index of motivation, it is useful to review the definitions of motivation which have been proposed in psychology. The hedonistic doctrine of motivation, as discussed by Freud (1922) and James (1890) can be traced to two conceptions of motivation found in contemporary psychological theories.

One conception of motivation which seems to originate from Tolman's (1925) analysis of purposive behavior refers to characteristics of the response produced by the organism. According to Tolman (1925), motivation has its impact on the persistence and vigor with which the action is performed. Similarly, Warden (1931) conceived of motivation as the amount of effort expended by the animal in reaching a goal. Hull (1943) distinguishes between habit strength which describes the directed aspect of behavior and drive which has its impact on performance characteristics of the behavior (e.g. vigor and speed). In a similar vein, Miller's (1959) approach-avoidance gradients were based on an operational definition of motivation as the speed with which the animal approaches the goal box. In the area of second language acquisition, Dunkel (1948) conceived of one aspect of motivation of the student to learn a second language as the amount of effort he would expend toward that goal. Similarly, in Carroll's (1962) approach to second language acquisition, motivation

corresponds to the length of time the individual is willing to devote to acquiring the second language. This first conception of motivation thus refers to the amount of effort an organism expends to achieve a particular goal.

A second conception of motivation is much more popular in social psychology and refers not only to the energizing effects of motivation, but also to its directive role. This conception has its roots in Lewin's (1938) theory and has been formalized by Peak (1955) and Rosenberg (1956) as the expectancy-value approach. The expectancy-value approach views motivation in terms of the cause of behavior rather than in terms of characteristics of the response itself. Lewin (1938) originally proposed that the individual's phenomenological life space could be conceptualized as a field comprising contiguous regions of varying valence. In Lewin's (1938) terms, valence referred to the attractiveness of the regions. The regions themselves, were abstract representations of the various acts, situations, and objects pertinent to the individual. If we consider an act as a region of the life space, the valence of this act or the tendency of an individual to behave in a certain manner, will be a function of the attractiveness of this act. Lewin's (1938) analysis did not include a description of the factors determining the attractiveness of an act. The determinants of attractiveness were, however, made explicit in further elaborations of Lewin's (1938) theory known as the expectancy-value models (e.g. Peak, 1955; Rosenberg, 1956; Edwards, 1954, Atkinson, 1964). Consistent with Lewin (1938), expectancy-value models hold that the motivation to perform an act is defined as the attractiveness of this act (or its valence). The attractiveness of an act is in turn a function of the relationship of this act to various outcomes and the evaluation of those outcomes. More precisely, motivation (M) is a multiplicative function of the subjective expectancy that a given behavior will lead to an outcome (I) and the evaluation of that outcome (e) summed over all possible outcomes of that behavior. Algebraically:

$$M = \sum_{i=1}^n (I_i e_i) \quad [3]$$

where n corresponds to the number of outcomes resulting from the behavior. It can be seen that both Fishbein's model (formula [2]) and formula [3] are highly similar. In fact, the only difference between Fishbein's model and the expectancy value model appears to be a terminological (but not operational) difference related to (I). Fishbein defines (I) as the belief linking an act to various outcomes while the expectancy-value model treats (I) as the subjective probability that a given outcome is related to a given act. Both believe strength and subjective expectancy can however be conceptualized as the individual's perceived relationship between an act and its various outcomes (see Fishbein, 1963). At the conceptual level then, Fishbein's formulation of attitude toward an act and the expectancy-value definition of motivation are equivalent. Peak (1955) has previously suggested that motivation can be equated with attitude toward an act when defined according to the expectancy-value formulation.

Thus, while the elements of Fishbein's model (formula [1]) appear not to correspond to a definition of motivation as being the amount of effort expended toward a goal, it does bear a close resemblance to the expectancy-value approach to motivation. In fact, the attitude element of Fishbein's model is admittedly (Fishbein & Ajzen, 1975) identical to the definition of motivation put forward by expectancy-value theorists. But Fishbein's model includes one additional element. This normative belief (NB) component refers to the individual's subjective evaluation of the extent to which he perceives that most people who are important to him think that he should perform the behavior in question.

The normative belief component is also present in Dulany's (1968) theory of propositional control from which Fishbein's model is developed. Dulany (1968) claims that an important determinant of the individual's behavior in an experimental setting is his perception of whether such or such an answer is expected from the experimenter. The experimental evidence presented by Dulany (1968), and Fishbein and Ajzen (1975) as well as other researchers concerned with the effects of social pressures on the individual's behavior (e.g. Himmelstein & Moore, 1963; Warner & DeFleur, 1969; Schofield, 1975) support the contention that a significant part of the individual's behavior might be the result of the social pressures related to the performance of that behavior. It would thus seem reasonable to hypothesize that the perceived attractiveness of an act might be a function of both the individual's attitude toward the act and the subjective social norms related to the performance of the behavior.

From the preceding discussion, it seems clear, therefore, that one can consider two conceptualizations of motivation. One refers to the effort expended by the person to achieve a goal, while the other corresponds to an individual's attitude toward the behavior added to the subjective norms related to that behavior. While the motivation-as-effort formulation has been more popular in the area of second language acquisition (cf. Carroll, 1962), the attention received in social psychology by the expectancy-value approach as well as the relatively high predictive power of Fishbein's model justifies its consideration as an alternative formulation which should be considered in a predictive model of second language competence. Both formulations will therefore be considered in the present studies.

Motivation and aptitude. The factor analytic evidence presented above suggested that both motivation and aptitude were important determinants of an individual's competence in the second language. While the factor analytic model assumes an additive relationship between motivation and aptitude, there is evidence that a multiplicative relationship might be more appropriate.

Heider (1958), in his analysis of attribution processes, implied that the effects on performance of an increment in either ability or "trying" (i.e. motivation) was perceived, by the observer, to be a function of the current level of the non-changing variable (i.e. motivation if ability changes and ability if motivation changes). In other words, from the point of view of the observer, ability and trying are related multiplicatively. In a more empirical context, French (1957) studied the joint effects of intelligence and achievement motivation on the problem solving ability of airmen and found a significant interaction between intelligence and motivation. Among those subjects high in achievement motivation, problem solving success was positively related to intelligence. Among those who were low in achievement motivation, however, there was no relationship between intelligence and problem solving success. Similarly, Fleishman (1958) induced various levels of motivation for air force trainees to perform a complex coordination task, and found that performance was significantly higher under the high motivation condition than under the low motivation condition. However, the difference in performance between the two motivation conditions was significantly greater for subjects high in ability than for those low in ability. Furthermore, the difference in performance of high and low ability subjects was greater under the high motivation condition than under the low motivation condition. Vroom (1960) also reports high positive correlations between ability and performance of supervisors high in motivation, lower positive correlations for those moderate in motivation and zero or slightly negative correlations for those low in motivation. Finally, Wyatt (1934) provides evidence for the fact that a given increment in motivation has a greater positive effect on the

performance of those high in ability than those low in ability.

On the basis of such evidence, Vroom (1964) and Porter and Lawler (1968) postulate that performance (P) should be more adequately predicted by a multiplicative function of motivation (M) and aptitude (A) than by an additive function. Algebraically:

$$P = A \times M$$

[4]

It would follow from such a model that, when ability has a low value, increments in motivation will result in smaller increases in performance than when ability has a high value. Conversely, when motivation has a low value, increments in ability will result in smaller increases in performance than when motivation has a high value. It can be seen, therefore, that the consequences of a given increment in each depends on the pre-existing value of the other.

There are consequently two competing models of the relationship between motivation and aptitude, which can be considered in predicting achievement in a second language. The first one, implicit in the factor analytic model used by Gardner and his associates, postulates an additive relationship between motivation and aptitude. The second one, described above, suggests that this relationship might be considered as being multiplicative rather than additive.

Apparently, only one recent study has attempted to test the predictive value of these competing models. Mitchell and Nebeker (1973) attempted to predict student's grade point average by combining various indices of motivation and ability additively and multiplicatively. While all correlations were significant, none of those obtained from the additive model were reported to differ significantly from those obtained by using the multiplicative model. For example, the correlation between predicted and actual grade point average was .57 when the ability and one of the motivation indices were combined additively and .56 when they were combined multiplicatively.

The Mitchell and Nebeker (1973) study appears to be the only recent one comparing the additive and multiplicative models predicting performance. In spite of the absence of a difference in the predictive power of both models, the further investigation and construction of predictive models related to performance can be seen to have two advantages in the present context. First, the construction of a model has, per se, the advantage of specifying a finite set of predictive parameters. Such a finite set of predictive parameters permits parsimony of formulation in that it reduces the complexity of the theoretical framework needed to include as many variables as those contained in the Gardner and Smythe (1974) attitude/motivation battery. Furthermore, while other methods such as multiple stepwise regression (used by Gardner & Smythe, 1974) will usually have higher predictive power for a given sample, the risk is present that the predictors generated for different samples will be different, thus rendering difficult the task of theoretical generalization. For theoretical parsimony and generalizability, the formulation of a model including a finite number of predictors thus appears to be important.

A second point of interest related to the present research arises from the investigation of the relative predictive power of the additive and multiplicative models. These models have widely different implications for the effects of variations of motivation or ability on the resulting performance. The multiplicative model would predict that the effects of variations in motivation on achievement would be related to the size of this variation and the current level of ability. In the additive model, however, the effects of variations in motivation is a function of the absolute size of those variations and unrelated to the level of ability. Because of the important practical

implications of these divergent predictions for incentive programs (see Gardner, 1975, for review) meant to promote second language acquisition through increasing motivation, it seems important to compare their predictive power.

Summarizing this section on prediction, two approaches to motivation have received attention in psychology. One defines motivation in terms of effort expenditure while the other refers to the attractiveness of the goal object. Given that both motivation and ability appear to be related to performance, these two elements can be combined additively or multiplicatively. In order to contrast the relative predictive power of the two definitions of motivation outlined above and the additive and multiplicative models, two criteria often investigated in the area of second language acquisition will be employed. One will be the behavioral intention to continue studying English, the other will be achievement in English.

Persistence has been suggested to be well under the volitional control of the individual. If this is true, Fishbein's model should have a high predictive value. However, since choice to re-enroll in the English course involves for the student, the expectancy of succeeding, which, in turn, involves his aptitude, it would appear necessary to compare various models which include the aptitude factor to models only including motivation. Bartley (1969) and Gardner and Smythe (1975) have found significant differences in aptitude between those students choosing to re-enroll and those choosing not to do so. In order to delineate the effects of aptitude and motivation on persistence, six models will be compared. These will include four models including aptitude and two models involving only motivational estimates. Those two models involving motivational estimates will operationally define motivation, respectively as an index of the effort volunteered by the student toward learning English and as an index of the attractiveness of re-enrolling in the English course (i.e. $Aact + NB$). The four models also including ability will result from the additive and multiplicative combination of those two motivational indices with an index of aptitude.

The second criterion is the individual's competence in English. As for the prediction of persistence, six competing models will be investigated. These are essentially the same as those described above for the prediction of persistence. Motivation will be defined both in terms of the effort expended by the individual towards learning English and the attractiveness or evaluation of that behavior. Motivation and aptitude will be related both additively and multiplicatively. The combination of the two operational definitions of motivation and the two types of relationship to aptitude will thus produce four predictive models. The two remaining models will correspond to the motivational indices alone. This will permit a control condition comparison of the combined motivation-aptitude models with the motivation indices taken alone. On the basis of the past research summarized above, it is expected that the combination models will evidence higher predictive power than the indices of motivation taken alone. However, no specific hypothesis is formulated with respect to the relative predictive power of additive and multiplicative models.

Overview of the Studies

Four studies are described in the following sections. For purposes of clarity, it seems useful to separate the studies concerned with the description of the relationships among the variables through factor analytic methods from those studies concerned with testing the predictive models outlined above. The data for studies I and II were collected at the same time and from the same samples.

Thus, study I involves a factor analysis of the relationships among the variables and study II compares the relative predictive power of the types of models outlined above using data collected from the same sample. Studies III and IV follow the same pattern, their data being collected from the same sample. Study III is concerned with delineating the factor pattern among all the variables, while study IV compares the different predictive models. It should be noted, however, that studies III and IV constitute theoretical extensions of studies I and II respectively, and are not mere replications.

CHAPTER 2*

Study I

Study I constitutes the initial attempt to apply the concepts generated by Gardner and Smythe (1975) to a French high school population. No a priori hypothesis was formulated regarding the relationships among the indices of attitudes, abilities and second language achievement of francophone students. Gardner's approach would predict that "integrativeness" is a potential determinant of English proficiency. However, Québec's North American location as well as the francophone's cultural tradition have identified economic institutions with anglophones. The situation is thus very similar to what has been observed in the Philippines (Gardner & Santos, 1970) where an "instrumental orientation" as well as an "integrative motive" have been found to be related to second language competence. Furthermore, the traditional nationalistic orientation of Québec francophones might be antithetical to any willingness to integrate with the English speaking community. It is thus possible that an "instrumental" orientation would be more predictive of English achievement among francophone students from Québec, than an integrative orientation. On the other hand, it should be noted that "instrumental" and "integrative" orientations are not necessarily mutually exclusive, nor need they work in opposition to each other (cf., Smythe, Stennett & Feenstra, 1972). Therefore, in the Québec situation, they might well both be found to be related to English competence as was the case for Philippine students (Gardner & Santos, 1970).

In order to conduct study I, it was first necessary to make a conceptual translation of the Gardner and Smythe (1975) attitude/motivation battery into French. This was done (see Clément, Smythe & Gardner, in press) more as a conceptual adaptation than a literal translation of the English test battery, thus attempting to account for cultural differences potentially rendering the items of the English battery inappropriate to a francophone population. The Kuder-Richardson/20 coefficients as well as the items related to each scale are presented in Appendix A.

Method

Subjects

Subjects were 304 grade 10 (Secondaire IV) and 11 (Secondaire V) students attending two schools within the Montreal Catholic School Commission. There were 78 male subjects in grade 10, and 66 in grade 11; there were 75 female subjects in grade 10, and 85 in grade 11.

Variables

A total of 38 variables were investigated in this study. Variables 2-32 are derived from the subtests of the Clément, Smythe and Gardner (1976) battery. A description of the variables follows.

1. Sex. Girls were coded as 2, boys as 1.

* A similar version of this chapter first appeared in the *Canadian Journal of Behavioural Science*, 1977, 8, 123-133.

2. Need Achievement. This test consisted of 10 items designed to indicate how hard an individual strives for perfection in any task he undertakes. Four of the items are positively worded in that they stress an interest in performing tasks with considerable care and perfection, while the remaining six are worded negatively. A high score (maximum = 70) reflects a high need for achievement.
3. Ethnocentrism. This scale consisted of 10 items derived from the other minorities and patriotism sub-scale (Adorno, Frenkel-Brunswick, Levinson and Sanford, 1950) and the children's ethnocentrism scale (Frenkel-Brunswick, 1949). A high score (maximum = 70) reflects feelings of ethnocentrism, the belief that one's own cultural community is superior to other cultural groups.
4. English Class Anxiety. This scale consisted of five items which refer to feelings of discomfort or anxiety associated with speaking English or participating in the English class. A high score (maximum = 35) reflects anxiety aroused in the English classroom situation.
5. Attitudes toward English Canadians. This test was comprised of 10 positively worded items about English Canadians. A high score (maximum = 70) on this measure indicates a positive attitude towards English Canadians.
6. Interest in Foreign Languages. This scale consisted of 10 items reflecting an interest in learning or knowing "foreign languages". A high score (maximum = 70) indicates an interest in foreign languages.
7. Degree of Integrativeness. Four items comprised this test, each emphasizing the importance of learning English in order to interact with and share cultural experiences with members of the English speaking community. A high score (maximum = 28) indicates that subjects perceive integrative reasons for studying English as relevant to themselves.
8. Degree of Instrumentality. Subjects were presented with four items each stressing the pragmatic or utilitarian value of learning English. A high score (maximum = 28) indicates that subjects perceive utilitarian reasons for studying English as appropriate to their own feelings.
9. Parental Encouragement. This scale consisted of 10 items referring to the extent to which the students perceive their parents as actively encouraging them to learn English. A high score (maximum = 70) is indicative of a student's perception that his parents actively encourage him to learn English.
10. Attitudes toward Learning English. This test consisted of 10 items, five positively worded and five negatively worded. The test is scored such that a high score (maximum = 70) indicates a favourable attitude toward learning English.
11. Attitudes toward Americans. Ten positively worded statements concerning American people comprised this test. A high score (maximum = 70) indicates a favourable attitude towards Americans.
12. Anomie. This test assessed feelings of anomie (dissatisfaction with one's

role in his own cultural community). Ten items, each expressing such dissatisfaction were presented. The higher the score (maximum = 70, the greater the feelings of anomie.

13. Attitudes towards Bilingualism. Ten items comprised this test, five positively worded and five negatively worded. A high score (maximum = 70) indicates favourable attitudes toward acquiring a second language.
14. English Use Anxiety. This scale consisted of four positively worded items and four negatively worded items. A high score (maximum = 56) on this test reflects a subject's anxiety or discomfort when speaking English in real-life situations.

Variables 15-20 were each assessed by means of a semantic differential format. Five concepts were each rated on 25 semantic differential scales. For each concept, ten scales were included which were highly evaluative in nature, and the sum of the ratings on these ten scales (maximum = 70) for each concept represents its evaluation. A high score reflects a positive evaluation. Variables 15-20 are listed below.

15. English Canadians - Evaluative.
16. Myself - Evaluative.
17. English Teacher - Evaluative.
18. Americans - Evaluative.
19. French Canadians - Evaluative.
20. English Course - Evaluative.
21. Behavioral Intention not to Re-enroll in English. Students were asked if they intended to take English next year. Their answers were coded 1 for "yes", and 2 for "no" for the grade 10 sample and 1 for "yes", 2 for "I don't know" and 3 for "no" for the grade 11 sample.
22. Opportunity to Use English. The student's evaluation of his opportunity to use English outside of school was made on a dichotomous scale for which yes was coded as 1 and no as 2.
23. Number of Years Studying English. Students were asked to indicate the number of years they had studied English. Their score was the number of years.
24. Number of Languages Spoken at Home. Students indicated the languages spoken at home. Their total number constitutes this measure.
25. Number of Languages Student Speaks. Students were asked to indicate the languages they speak. The number indicated constitutes this measure.
26. Motivational Intensity. This test consisted of 10 multiple choice items designed to assess the amount of effort students felt that they expended in learning English. A high score (maximum = 30) represents a student's self report of a high degree of effort expended in acquiring English.

27. Desire to Learn English. Ten multiple choice items comprised this scale. The items were designed to assess how much the student wants to learn English but de-emphasizes the actual amount of effort involved. A high score (maximum = 30) on this test indicates a strong desire to learn English.
28. Orientation Index. This measure consisted of one item with four alternatives. Students were requested to select the one alternative which best described their reasons for studying English. Two of the items emphasized instrumental aspects, while two emphasized an integrative orientation. Students selecting an integrative reason obtained a score of 2, while students selecting an instrumental reason obtained a score of 1. This item therefore is comparable to tests 6 and 7 (see above) but forces the student to choose between integrative and instrumental reasons.

Variables 29-32 involved students' self-ratings of their proficiency in writing, understanding, reading and speaking English. Each of the four skills was rated on a seven point scale defined at one end by "pas du tout" (not at all) and at the other by "couramment" (fluently). A high score (maximum = 7) indicates a positive self-evaluation. Variables 29-32 are listed below.

29. Writing - Self-rating.
30. Understanding - Self-rating.
31. Reading - Self-rating.
32. Speaking - Self-rating.

Variables 33-38 were obtained from the records of the Bureau de l'Evaluation of the Montreal Catholic School Commission. Variables 33-36 are based on students' performance on tests developed by the Bureau de l'Evaluation and standardized on the population served by the Montreal Catholic School Commission. Scores for variables 33-35 were derived from tests administered to the students at the end of grade 9, while those for variable 36 are based on a test administered at the end of grade 8. Variables 37 (Final grade-Aural/Oral English) and 38 (Final grade-Written English) are based on examinations administered in June, 1975. The written examination and the comprehension part of the aural/oral examination were uniform for all students. The oral expression examination varied with the individual teachers, who were also the examiners. The scores obtained by the students on these two measures were standardized within school and course before being included in the analysis. Variables 33-38 are listed below.

33. French.
34. Mathematics.
35. English.
36. I.Q.
37. Final grade - Aural/Oral English.

33. Final grade - Written English.

Procedure

All subjects were tested in May 1975 during two separate one-hour sessions. All testing was conducted in French. At the beginning of the first session, the author identified himself as a doctoral candidate and read the general instructions appearing on the first page of the questionnaire. These instructions informed the student of the general aim of the study and stressed the confidentiality of his answers. At the beginning of the second session, the experimenter again read the general instructions. In the first session, the students answered all Likert type items and in the second, they completed the remaining sections of the battery. In both sessions, the items and the scales were presented in a fixed random order.

Results

The data for grades 10 and 11 were analysed separately by means of factor analyses including the 38 variables described above. The principal axis solution produced six factors with eigenvalues greater than unity for each sample, however, on applying the "scree test" procedure (Cattell, 1966; Cliff, 1970) for determining the number of non-trivial factors, the four first factors produced by each sample were rotated by means of the Varimax solution. The correlation matrices related to both grade 10 and 11 samples are presented in Appendix B.

Grade 10

Table 1 presents the factor matrix obtained for grade 10 students. Factor I receives appreciable loadings (greater than $\pm .30$) from 14 of the 38 variables. The composition of this factor suggests that students who are interested in learning second languages (Variable 6), are motivated to learn English (Variables 26, 27) for both integrative (Variable 7) and instrumental (Variable 8) reasons, have a positive attitude toward learning English (Variable 10), toward anglophones (Variables 5, 11, 15, 18), the English course (Variable 20), the English teacher (Variable 17), and bilingualism (Variable 13) and are encouraged by their parents to learn English (Variable 9). Due to the common loading of both motivational and attitudinal variables associated with the learning of English, and with anglophones in general, this factor appears to be best described as an Integrative Motive factor.

Factor II receives appreciable loadings from 16 variables. This factor suggests that the individual who reports little anxiety when speaking English in class or in public (Variables 4 and 14), and who rates his English proficiency highly (Variables 29, 30, 31, 32) also reports using English frequently (Variable 22), speaks more than one language (Variable 25), and lives in a home where more than one language is spoken (Variable 24). He also has a positive attitude toward learning English and the English course (Variables 10 and 20), is highly motivated to learn English (Variables 26 and 27) and shows a relatively high degree of mastery of English (Variables 35, 37, 38). Because of the dominance of positive loadings from the four self-ratings, and the negative loadings of the two indices of anxiety, this factor seems best identified as a Self-Confidence with English dimension.

TABLE 1

Rotated Factor Matrix
for the Grade Ten Sample

	I	II	III	IV
1. Sex	.27	-.19	.21	-.25
2. Need Achievement	.18	.08	.38	-.29
3. Ethnocentrism	-.13	-.03	-.38	.54
4. English Class Anxiety	.15	-.72	-.08	.29
5. Attitudes toward English Canadians	.80	-.02	-.20	.08
6. Interest in Foreign Languages	.79	.16	.24	.11
7. Degree of Integrativeness	.84	.04	.06	.21
8. Degree of Instrumentality	.42	-.20	-.22	.35
9. Parental Encouragement to Learn English	.56	.01	-.11	.08
10. Attitudes toward Learning English	.78	.30	.00	-.20
11. Attitudes toward Americans	.68	.04	-.09	-.04
12. Anomie	.14	-.11	-.16	.64
13. Attitudes toward Bilingualism	.68	.15	.17	-.14
14. English Use Anxiety	.04	-.77	.03	.17
15. English Canadians - Evaluative	.58	.03	-.12	-.17
16. Myself - Evaluative	.20	-.06	.15	-.50
17. English Teacher - Evaluative	.35	.11	-.16	-.41
18. Americans - Evaluative	.53	-.01	-.16	-.21
19. French Canadians - Evaluative	-.04	.05	.05	-.31
20. English Course - Evaluative	.49	.35	-.22	-.25
21. Behavioral Intention not to Re-enroll in English	-.15	.05	.00	-.07
22. Opportunity to Use English	-.11	-.65	-.01	.08
23. No. of Years Studying English	.02	.13	.25	-.11

	I	II	III	IV
24. No. of Languages Spoken at Home	.15	.39	.04	.10
25. No. of Languages Student Speaks	.03	.48	.12	-.10
26. Motivational Intensity	.54	.47	.13	-.23
27. Desire to Learn English	.72	.34	.12	-.15
28. Orientation Index	.06	.16	-.02	-.01
29. Writing - Self-rating	.05	.70	.32	-.02
30. Understanding - Self-rating	.06	.78	.34	.03
31. Reading - Self-rating	.08	.68	.29	-.01
32. Speaking - Self-rating	.06	.84	.22	.06
33. French	-.16	.15	.80	-.12
34. Mathematics	-.17	.04	.75	-.20
35. English	-.10	.40	.67	-.03
36. I.Q.	-.13	.01	.72	-.30
37. Final Grade - Oral English	.03	.53	.61	.08
38. Final Grade - Written English	.01	.50	.68	.18

This interpretation would suggest furthermore that such self-confidence is associated with a heightened motivation to learn and use English, to evaluate the language and the learning situation highly, and to actually be proficient in English. Such self-confidence, furthermore, is characteristic of those students who speak more than one language, and who come from bilingual homes. Inspection of Variables 24 and 25 revealed that the major variation in each variable was due to a distinction between those who indicated only French and those who specified French and English. Thus, the dimension of Self-Confidence with English seems to be associated with a bilingual background.

Factor III receives appreciable loadings from ten variables. The major defining variables are the measures of academic achievement and intellectual ability (Variables 33, 34, 35, 36, 37 and 38) indicating that this factor is best identified as Academic Achievement. The remaining four variables contributing to this dimension suggest that Academic Achievement is associated with a high need achievement, a lack of ethnocentrism, and the self-perception of competency in understanding and writing English (Variables 2, 3, 30 and 29 respectively).

Factor IV receives appreciable loadings from seven variables. The pattern of loadings suggests that students who are anomic tend also to be ethnocentric, critical of the self, the English teacher, and French Canadians, to be instrumentally oriented toward learning English, and to be somewhat low in intellectual ability (Variables 12, 3, 16, 17, 19, 8 and 36 respectively). This dimension seems best identified as an Alienation factor, because of the general negative emotional tone associated with the self and one's role in society suggested by the pattern of loadings. It would appear significant, however, that such alienation is related to an instrumental orientation toward the study of English.

In summary, the factor analysis of the data collected from the grade 10 sample revealed that the student's motivation to learn English is positively associated with his attitude toward anglophones (Factor I) and his self-confidence with English (Factor II). His achievement in English appears to be linked to his general academic achievement as well as to feelings of self-confidence (Factors III and II respectively). The common loading of the motivational indices on both Factor I and Factor II suggests that the individual's English achievement is linked with his motivation to learn the language, which in turn has its foundation in his attitude toward the English community and his comfort when speaking English. Although, both integrative and instrumental reasons for learning English appear to be endorsed by the students, it should be noted that degree of instrumentality is related to the alienation dimension and not to achievement in English, suggesting that instrumentality might be indicative of cultural alienation though it is not related to achievement in the second language. It thus appears that for francophones, the integrative motive might be an important source of motivation to achieve competence in English; an instrumental orientation appears not to be a major motivating factor.

Grade 11

The final solution achieved by rotation of the four factors produced by the grade 11 sample is presented in Table 2. Factor I receives appreciable loadings from 16 variables. The pattern of loadings suggests that the student holding a positive attitude toward anglophones (Variables 5, 11, 15, 18), toward the English course (Variable 20), toward bilingualism (Variable 13) and toward learning foreign languages (Variable 6), also expresses favourable attitudes toward learning English (Variable 10), evidences a strong motivation to learn English (Variables 26 and 27) for both integrative (Variable 7) and instrumental (Variable 8) reasons, is encouraged by his parents to learn English (Variable 9), positively evaluates his own

TABLE 2

Rotated Factor Matrix
for the Grade Eleven Sample

	I	II	III	IV
1. Sex	.08	-.21	.04	-.50
2. Need Achievement	.09	.17	.01	-.40
3. Ethnocentrism	.09	.16	-.23	.60
4. English Class Anxiety	.08	-.69	-.13	.14
5. Attitudes toward English Canadians	.78	.05	-.12	-.16
6. Interest in Foreign Languages	.64	.14	.15	-.16
7. Degree of Integrativeness	.78	.06	.05	-.15
8. Degree of Instrumentality	.50	.06	-.01	.32
9. Parental Encouragement to Learn English	.56	.01	-.02	.24
10. Attitudes toward Learning English	.79	.36	.06	-.04
11. Attitudes toward Americans	.67	.20	-.08	-.16
12. Anomie	.09	.08	-.01	.47
13. Attitudes toward Bilingualism	.72	.06	.17	-.07
14. English Use Anxiety	-.02	-.73	.02	.13
15. English Canadians - Evaluative	.58	.15	-.25	-.32
16. Myself - Evaluative	.20	.08	-.14	-.47
17. English Teacher - Evaluative	.11	.19	-.37	-.15
18. Americans - Evaluative	.63	.16	-.23	-.27
19. French Canadians - Evaluative	.06	.13	-.28	-.37
20. English Course - Evaluative	.43	.36	-.39	-.01
21. Behavioral Intention not to Re-enroll in English	-.52	-.03	.15	-.12
22. Opportunity to Use English	-.11	-.49	.05	.02
23. No. of Years Studying English	.00	.20	.10	-.31

	I	II	III	IV
24. No. of Languages Spoken at Home	.05	.41	-.06	.15
25. No. of Languages Student Speaks	.23	.54	-.01	-.03
26. Motivational Intensity	.51	.49	-.10	-.14
27. Desire to Learn English	.72	.37	-.04	-.03
28. Orientation Index	.08	-.04	.05	-.22
29. Writing - Self-rating	.39	.67	.27	.05
30. Understanding - Self-rating	.20	.75	.24	.02
31. Reading - Self-rating	.34	.58	.19	.03
32. Speaking - Self-rating	.27	.77	.09	.20
33. French	.02	-.02	.80	-.24
34. Mathematics	-.04	.02	.78	-.09
35. English	-.04	.38	.71	.04
36. I.Q.	-.02	.01	.73	-.05
37. Final Grade - Oral English	-.08	.35	.60	-.01
38. Final Grade - Written English	.05	.18	.70	-.06

ability to write and read English (Variables 29 and 31), and expresses the intention to enroll in English (Variable 21) the following year. This factor is thus best identified as an Integrative Motive dimension, and demonstrates a relationship between this motivation and perceptions of competency as well as the intention to pursue second language study.

Factor II receives appreciable loadings from 15 variables. The pattern of loadings suggests that the student who evaluates his English proficiency highly (Variables 29, 30, 31 and 32), expresses little, if any, anxiety when speaking English either outside or inside the classroom situation (Variables 14 and 4), reports that he speaks a number of languages and that more than one language is spoken at home (Variables 25 and 24), reports many opportunities for using English (Variable 22), is highly motivated to learn English (Variables 26 and 27), has favourable attitudes toward the English course (Variable 20) and learning English (Variable 10) and does well on standardized tests of English proficiency (Variable 35) and more specifically, on the measure of oral proficiency (Variable 37). Except for the absence of the measure of final grade in written English on this factor (Variable 38), this dimension is comparable to Factor II obtained in the grade 10 sample, and thus is best interpreted as a Self-Confidence with English dimension. As with the grade 10 sample, such self-confidence appears to be highly associated with a bilingual background.

Factor III receives appreciable loadings from eight variables. Six of these are the standardized scores of French, Mathematics, English, General Intelligence and written and oral English proficiency (Variables 33-38). These academic achievement indices are negatively related to the student's evaluation of his English teacher (Variable 17) and English Course (Variable 20). The major loadings obtained on the indices of academic achievement appear to best qualify this factor as an Academic Achievement dimension. It should be noted however that students with a high level of academic achievement tend to downgrade the means put at their disposal to learn English. This suggests that otherwise successful students might be dissatisfied with the approach to second language acquisition to which they are presently exposed. A number of causal explanations might be proposed for the phenomenon observed here. A possible one, however, would be that students who are highly proficient in English as well as in other intellectual achievements perceive their compulsory English course and teacher in a negative light, primarily, because the course is too easy for them.

Factor IV receives appreciable loadings from nine variables. The pattern suggests that males (Variable 1) who are ethnocentric tend to be anomic, perceive themselves, French Canadians and English Canadians negatively (Variables 3, 12, 16, 19 and 15 respectively), have a low level of need achievement (Variable 2), are instrumental in their orientation toward English language study (Variable 8), and report that they have not studied English very long (Variable 23). This factor is comparable to Factor IV obtained for the grade 10 sample, and is best identified as an Alienation dimension. In the present case, however, alienation is highly associated with males. It should be noted that, as before, the alienated individual tends to be instrumentally oriented in his learning of English.

In summary, the factor pattern of the data for the grade 11 sample is very similar to that obtained for the grade 10 sample. English achievement is related to Academic Achievement (Factor III) and to a motivational dimension reflecting the individual's lack of anxiety and self-confidence with English (Factor II). Motivation to learn English is also associated with favourable attitudes toward the English community (Factor I). Finally, a strong instrumental orientation is associated with feelings of alienation, but not second language achievement.

In order to assess the degree of similarity of the factors obtained in both factor analyses, Wrigley-Neuhaus (see Harman, 1967, p. 270) congruence coefficients were computed for each pair of factors of the two samples. As would be expected, there was a high degree of congruence between corresponding factors from the two analyses. The coefficients were .94, .95, .91 and .79 for the factors Integrative Motive, Self-Confidence with English, Academic Achievement and Alienation respectively. The root mean squares for each of these pairs of factors were respectively .14, .12, .14 and .16. Both the congruence coefficients and the root mean squares therefore support the conclusion that highly similar patterns were found for the grade 10 and 11 samples.

Discussion

This study explored the relationships among measures of academic achievement, intelligence, attitude, motivation and English competence among two samples of francophone high school students. The patterns produced by factor analyses of grade 10 and 11 samples were highly similar. While English proficiency appears to depend upon a potent motivational component, English competence is related to the individual's prior experience with English and his related self-confidence and greater motivation to learn the language. Among these samples of students, such self-confidence with English tends to be characteristic of students who perceive themselves as bilingual and as coming from bilingual homes. This motivation to learn English is also associated with positive feelings toward the anglophone community and the English course, a cluster of attitudinal-motivational characteristics which has previously been referred to as an Integrative Motive.

A relationship between an Integrative Motive and persistence in second language study was obtained for the grade 11 sample but not for the grade 10 sample (see Factor I). This difference can be taken as further evidence of the validity of the Behavioral Intention index as a measure of persistence in second language acquisition. English is compulsory to the end of grade 11 in this school system, hence the question concerning one's behavioral intention to continue studying English is not particularly meaningful for the grade 10 sample. Should the behavioral intention measure be related to the Integrative Motive because of its attitudinal component, it would have been expected to load on this factor for both grade 10 and 11 samples. The absence of such a relationship for the grade 10 sample suggests that behavioral intention not only reflects student attitudes, but also, it appears to reflect the external constraints on the individual's choice, hence bearing a stronger relationship to his actual behavior. Consistent with the theoretical framework elaborated from studies of anglophones, however, when the individual is given the choice (i.e. the grade 11 students), his persistence in second language study is dependent upon an integrative motive.

The results obtained in this investigation of francophone students learning English are comparable to those obtained in studies of anglophone students learning French (Feenstra and Gardner, 1968; Gardner and Lambert, 1959, 1972; Gardner and Smythe, 1975; Smythe, Stennett and Feenstra, 1972) in that achievement in the second language is associated with both an ability and a motivational component. Furthermore, the motivational aspects are highly related to a particular attitudinal configuration which has previously been referred to as an Integrative Motive (c.f. Gardner and Smythe, 1975).

It should be stated, however, that while the concepts derived from studies of anglophone students learning French emphasize the importance of the integrative motive, the present results suggest that the individual's motivation is associated

with his self-confidence when using the second language.

Gardner, Smythe, Clément and Glikzman (1976) have suggested that anxiety variables such as those used in the present study are strong predictors of proficiency in French for anglophones, and that they are relatively independent of the Integrative Motive. The Self-Confidence factor isolated in this study receives major loadings from the two anxiety variables, and furthermore, is independent of the Integrative Motive factor. This suggests that the individual's motivation might well be mediated by two aspects, one, the attractiveness of the other culture, and the other, the self-confidence felt by the individual from a bilingual home when speaking the second language. Since these results suggest a possible socio-cultural basis of the individual's self-confidence with English, it would seem important to further investigate the factors related to self-confidence in the second language in order to clarify its conceptual distinction from the integrative motive. Clearly from the results obtained here, the self-confidence is more highly related to achievement in the second language than is the integrative motive.

It was expected in the planning of this study that, as was the case with students in the Philippines learning English as a second language (Gardner and Santos, 1970), an instrumental orientation would be related to achievement in English. The results obtained, however, failed to support this expectation. In fact, for both samples, an instrumental orientation to second language study was associated with feelings of alienation, suggesting that such an orientation is indicative of emotional dissatisfaction rather than a potent motivating basis for second language study.

CHAPTER 3

Study II

Study II was intended to test the relative power of various predictive models of persistence and competence in second language acquisition. The review of the past literature suggested that both motivation and aptitude are important predictors of persistence and competence in a second language. Motivation can, however, be defined either in terms of the effort expended toward reaching a goal or the attractiveness of that goal and could be related either additively or multiplicatively to aptitude.

The present study compared six models related to the prediction of persistence. Two models included only motivational estimates, one being defined as the amount of effort expended to learn English (MI), and the other as the attitude toward re-enrolling in English (Aact) added to the normative beliefs (NB) related to such a choice. Algebraically:

$$BI = MI \quad [5]$$

and

$$BI = Aact + NB \quad [6]$$

where BI corresponds to the individual's intention to re-enroll in English. The four remaining models involved these two operational definitions of motivation, added and multiplied by an index of intelligence (APT). Algebraically:

$$BI = MI + APT \quad [7]$$

$$BI = MI \times APT \quad [8]$$

$$BI = (Aact + NB) + Apt \quad [9]$$

$$BI = (Aact + NB) \times Apt \quad [10]$$

The criterion, behavioral intention to re-enroll in the second language course has been found to correspond with 95% accuracy to actual re-enrollment among English students learning French (Gardner & Smythe, 1975).

Six models of prediction of competence in English were also compared. One involved scores on the "motivational intensity" (MI) scale; the other corresponded to Fishbein's two predictive components (Aact and NB) concerning the act of obtaining high marks on an English exam. These are algebraically defined as:

$$C = MI \quad [15]$$

$$C = (Aact + NB)$$

[16]

These definitions of motivation were added and multiplied with the intelligence index (Apt), producing four models:

$$C = MI + Apt$$

[11]

$$C = MI \times Apt$$

[12]

$$C = (Aact + NB) + Apt$$

[13]

$$C = (Aact + NB) \times Apt$$

[14]

where C corresponds to the student's competence in English.

Method

Subjects

The subjects were the same as those used for study I, and were tested in twelve individual class groups during regular class time.

Materials

The scales used in this study and already described in study I are:

- Behavioral intention not to re-enroll in English (Variable 21)²
- Motivational intensity (Variable 26)
- Standardized test of English (Variable 35)
- Standardized final grade of oral English (Variable 37)
- Standardized final grade of written English (Variable 38)
- Standardized index of intelligence (Variable 36)

As part of the questionnaire used for study I, students were also asked to complete the following scales which are pertinent to the present study. These scales assess components of Ajzen and Fishbein's (1973) model and are operationally defined as suggested by these authors (e.g. Ajzen & Fishbein, 1972).

Aact - re-enrollment. The concept "re-enrolling in English next year" was rated on four evaluative semantic differential scales: Fou-sage (foolish-wise); bon-mauvais (good-bad); nuisible-bénéfique (harmful-beneficial); plaisant-déplaisant (pleasing-displeasing).

Aact - good mark. The concept "obtaining a good mark in an English exam" was rated on the same four semantic differential scales as those used for Aact - re-enrollment.

² The variable number corresponds to the number related to this variable in study I.

NB - re-enrollment. The students were asked to rate the statement: "The persons I value most think that it is important for me to take English next year" on a seven point scale defined, at one end, by "extrêmement probable" (extremely probable) and, at the other end, by "extrêmement improbable" (extremely improbable).

NB - good mark. The students were asked to rate the statement: "The persons I value most think that it is important for me to obtain a good mark in my English exams" on a seven point scale defined, at one end, by "extrêmement probable" (extremely probable) and, at the other end, by "extrêmement improbable" (extremely improbable).

Results

Overview of the Analyses

This study was conducted to compare the relative power of the six models to predict separately persistence and competence, and a similar approach was followed for both outcomes. All variables were first standardized within the 12 class groups tested, and a constant was added to all scores in order to eliminate negative values. For all models, predicted scores were computed using the formulae already presented. These predicted scores were correlated with the relevant criterion separately for each of the 12 class groups tested. A comparison of the predictive power of the models was made through a 2x3 repeated measures analysis of variance involving, as factors, the Type of Relationship between Motivation and Intelligence (additive vs. multiplicative vs. motivation alone) and the operational Definition of Motivation (MI vs. (Aact + NB)). The replication factor consisted of the 12 class groups.³ An analysis of variance of the correlation coefficients obtained between the predicted and actual scores for Ss in each sample was employed because the major purpose was to determine which definition of motivation and which relation to intelligence provided optimal prediction. This procedure permitted the investigation of the interaction of these two factors as well as allowing for sample variation. Although such an analysis is unusual, it seemed best suited to provide answers to the questions posed. One analysis was performed for the prediction of persistence and three analyses of variance were performed on the competence models.

Analysis of Persistence

Table 3 summarizes the analysis of variance performed on the measure of prediction of persistence involving as the dependent measure, the correlation between predicted and actual intention to re-enroll in English.⁴

³ The analysis of the persistence models involved only 11 groups since, for one of the groups, no variation was found in the criterion, Behavioral Intention not to re-enroll in English.

⁴ Prior to computing the analysis of variance, all the signs of the correlations related to the persistence model were changed. The mean correlations presented here therefore represent the relationship between the predictors and intention to re-enroll in English the following year.

TABLE 3

Analysis of Variance Summary Table
The Prediction of Persistence

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	1.011	1	1.011	7.10 [*]
A × Group (G)	1.424	10	.142	
Relationship to Intelligence (B)	.302	2	.151	18.32 ^{**}
B × G	.165	20	.008	
A × B	.070	2	.035	16.63 ^{**}
A × B × G	.042	20	.002	
G	2.312	10	.231	

^{*} p < .05

^{**} p < .001

As can be seen, all effects were significant. A main effect was found for the Definition of Motivation factor ($F=7.10$, $df. 1,10$, $p<.05$). The attractiveness definition of motivation (Aact + NB) was a more powerful predictor ($\bar{r} = .48$) than the effort definition of motivation ($\bar{r} = .23$). A significant effect ($F=18.32$, $df. 2,20$, $p<.001$) was also found on the Relationship to Intelligence factor. Motivation considered alone ($\bar{r} = .44$) was a more powerful predictor of persistence than when considered in combination with intelligence either additively ($\bar{r} = .35$) or multiplicatively ($\bar{r} = .29$).

Last, a significant interaction ($F=16.63$, $df. 2,20$, $p<.001$) was obtained which qualifies the interpretation of the main effects. As can be seen in Figure 1, this interaction is due mainly to the fact that (Aact + NB) combined additively with intelligence produced a more powerful predictor than the multiplicative combination whereas the additive and multiplicative combinations of MI produced virtually identical results. A posteriori test of the simple main effects (Newman-Keuls) revealed that (Aact + NB) was superior to MI both when taken alone ($q=4.44$, $p<.01$) or in additive combination with intelligence ($q=4.31$, $p<.01$) while the difference between the multiplicative combination with intelligence of the two motivational indices was only marginally significant ($q=2.25$, $p<.10$). Comparison of the various combinations related to each motivational index revealed that (Aact + NB), when taken alone, produced a superior relationship to the criterion than either when combined multiplicatively ($q=11.06$, $p<.01$) or additively ($q=4.61$, $p<.01$) with intelligence. The additive combination was itself superior to the multiplicative combination ($q=6.45$, $p<.01$). Considering the models including MI, this index of motivation taken alone produced a mean correlation with the criterion which was superior to that produced by both its additive ($q=4.24$, $p<.01$) or multiplicative ($q=4.33$, $p<.05$) combination with intelligence. The additive and multiplicative combinations did not differ significantly from one another ($q = .09$). In summary, (Aact + NB) was a more powerful predictor of the individual's intention to re-enroll in English than was MI, with the exception that the models combining both indices multiplicatively with intelligence did not differ significantly. (Aact + NB) taken alone was, however, a more powerful predictor of the criterion than when combined with intelligence either additively or multiplicatively.

Analyses of Competence

Three separate analyses were conducted on the prediction of competence, one for each of three indices of English proficiency. The first analysis of variance involved the correlations between the various predictors and the mark obtained on a standardized test of English proficiency devised and administered by the school board two years before the student's attitudes were assessed. As can be seen in Table 4, all effects were significant. The effort (MI) Definition of Motivation ($\bar{r} = .43$) was more predictive of proficiency ($F=5.30$, $df. 1,11$, $p<.05$) than (Aact + NB) ($\bar{r} = .25$). A main effect was also found for the Relationship to Intelligence Factor ($F=37.73$, $df. 2,22$, $p<.001$). The multiplicative models were superior ($\bar{r} = .47$) to the additive models ($\bar{r} = .40$) which were themselves superior to the indices of motivation ($\bar{r} = .15$) taken alone. The interaction between those two factors was also significant ($F=5.16$, $df. 2,22$, $p<.05$) and is depicted in Figure 2. A posteriori test of the simple main effects (Newman-Keuls) revealed that the models involving MI were superior to those involving (Aact + NB) either when motivation was taken alone ($q=3.60$, $p<.05$) or when combined additively with intelligence ($q=3.89$, $p<.05$). The difference between the multiplicative models involving the two motivational indices was not significant ($q = 1.77$). Considering the

Figure 1

Predicting persistence as a function of Definition of Motivation
and Type of Relationship to Intelligence

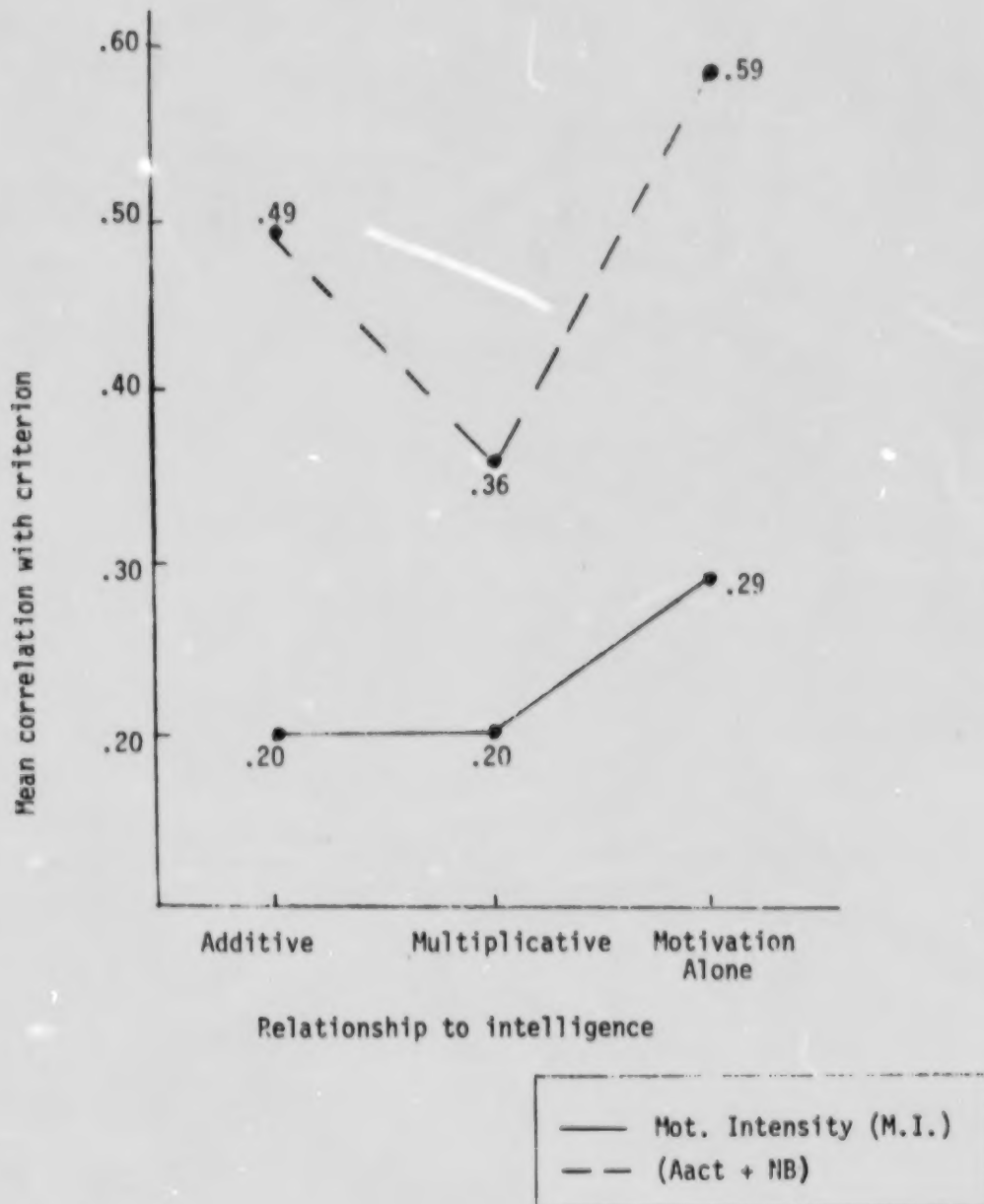


TABLE 4

Analysis of Variance Summary Table
Predicting Score on the Standardized English Test

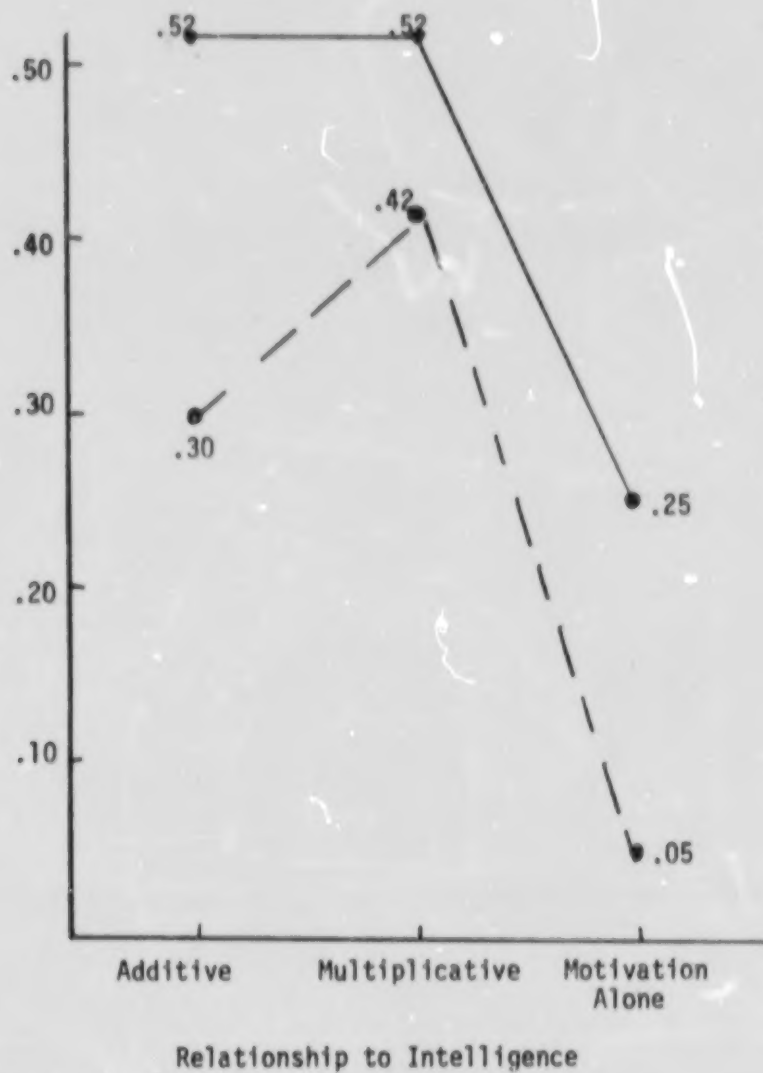
<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.558	1	.558	5.30*
A × Group (G)	1.158	11	.105	
Relationship to Intelligence (B)	1.361	2	.680	37.73**
B × G	.397	22	.180	
A × B	.057	2	.025	5.15*
A × B × G	.108	22	.004	
G	3.123	11	.284	

* $p < .05$

** $p < .001$

Figure 2

Predicting performance on standardized English test as a function of Definition of Motivation and Type of Relationship to Intelligence



— Mot. Intensity (M.I.)
- - (Aact + NB)

models related to MI, the additive and multiplicative combinations with intelligence did not differ significantly ($q = .032$) while both were superior to motivation taken alone ($q=8.58$ and $q=8.55$, respectively, $p<.01$). With respect to (Aact + NB), the multiplicative combination of this motivational index with intelligence produced a model which was superior to both the additive combination ($q=3.88$, $p<.05$) and (Aact + NB) taken alone ($q=11.90$, $p<.01$). The additive combination was itself superior to (Aact + NB) taken alone ($q=8.03$, $p<.01$). Overall, then, MI was the best motivational predictor of the criterion and in all cases, the combination of the index of intelligence with the indices of motivation increased the predictive power substantially. While no significant difference was found between the additive and multiplicative combinations of MI with intelligence, the multiplicative model involving (Aact + NB) was superior to the additive model.

The second analysis of variance involved as the dependent variable the correlations of the various models with the student's final mark in oral English. As can be seen in Table 5, all effects were significant and comparable to those of the preceding analysis. A main effect was found for the Definition of Motivation factor ($F=21.93$, $df. 1,11$, $p<.001$). The effort definition ($\bar{r} = .40$) was superior to the attractiveness ($\bar{r} = .18$) definition of motivation. A main effect was also found for the Relationship to Intelligence factor ($F=21.08$, $df. 2,22$, $p<.001$). The multiplicative models ($\bar{r} = .39$) were slightly superior to the additive models ($\bar{r} = .35$) which were themselves superior to motivation alone ($\bar{r} = .13$) as predictors. Last, the interaction of these two factors was significant ($F=3.50$, $df. 2,22$, $p<.05$) and is depicted in Figure 3. A posteriori Newman-Keuls test of the simple main effects revealed that MI was superior to (Aact + NB) either when taken alone ($q=6.75$, $p<.01$) or combined additively ($q=6.52$, $p<.01$) or multiplicatively ($q=3.88$, $p<.05$) with intelligence. The additive and multiplicative combinations of MI with intelligence were themselves superior to MI taken alone ($q=5.98$, $q=5.89$, respectively, $p<.01$) while not significantly different from one another ($q = .08$). The multiplicative combination of (Aact + NB) with intelligence was only marginally superior to their additive combination ($q=2.83$, $p<.10$) while both differed significantly from (Aact + NB) taken alone ($q=9.07$, $q=6.23$, respectively, $p<.01$). The present interaction is therefore mainly due to the slight superiority of the multiplicative over the additive model involving (Aact + NB) and to the relatively greater drop in prediction when this index is taken alone in comparison to MI taken alone. As for the previous analysis, however, MI was generally a better predictor of the criterion than (Aact + NB) and the predictive power of the models involving both motivational indices was significantly increased when they were combined with the intelligence index.

The third and last analysis of the prediction of competence involved as the dependent variable the correlations between the predictors and the individual's final mark in written English. As can be seen in Table 6, all effects were significant and again similar to the results found in the two preceding analyses. A main effect was found for the Definition of Motivation factor ($F=11.85$, $df. 1,11$, $p<.001$). Motivation as effort ($\bar{r} = .42$) was a better predictor of performance than (Aact + NB) ($\bar{r} = .21$). The Relationship to Intelligence factor produced a significant main effect ($F=40.97$, $df. 2,22$, $p<.001$). The multiplicative models ($\bar{r} = .43$) were superior to the additive models ($\bar{r} = .37$) which were themselves superior to the motivational indices taken alone ($\bar{r} = .15$). Last, the interaction (see Figure 4) was also significant ($F=4.26$, $df. 2,22$, $p<.05$). The a posteriori pairwise comparisons of means (Newman-Keuls) produced results which were similar to those obtained in the two previous analyses of the performance models. MI was a more potent predictor of the criterion than (Aact + NB) either when taken alone ($q=5.42$, $p<.01$) or additively combined with intelligence ($q=5.18$, $p<.01$). The multiplicative models involving

TABLE 5

Analysis of Variance Summary Table
Predicting Final Grade in Aural/Oral English

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.893	1	.893	21.93**
A × Group (G)	.448	11	.041	
Relationship to Intelligence (B)	.962	2	.481	21.08**
B × G	.502	22	.022	
A × B	.050	2	.025	3.50*
A × B × G	.158	22	.007	
G	3.177	11	.288	

* p < .05

** p < .001

Figure 3

Predicting final grade in oral English as a function of Definition of Motivation and Type of Relationship to Intelligence

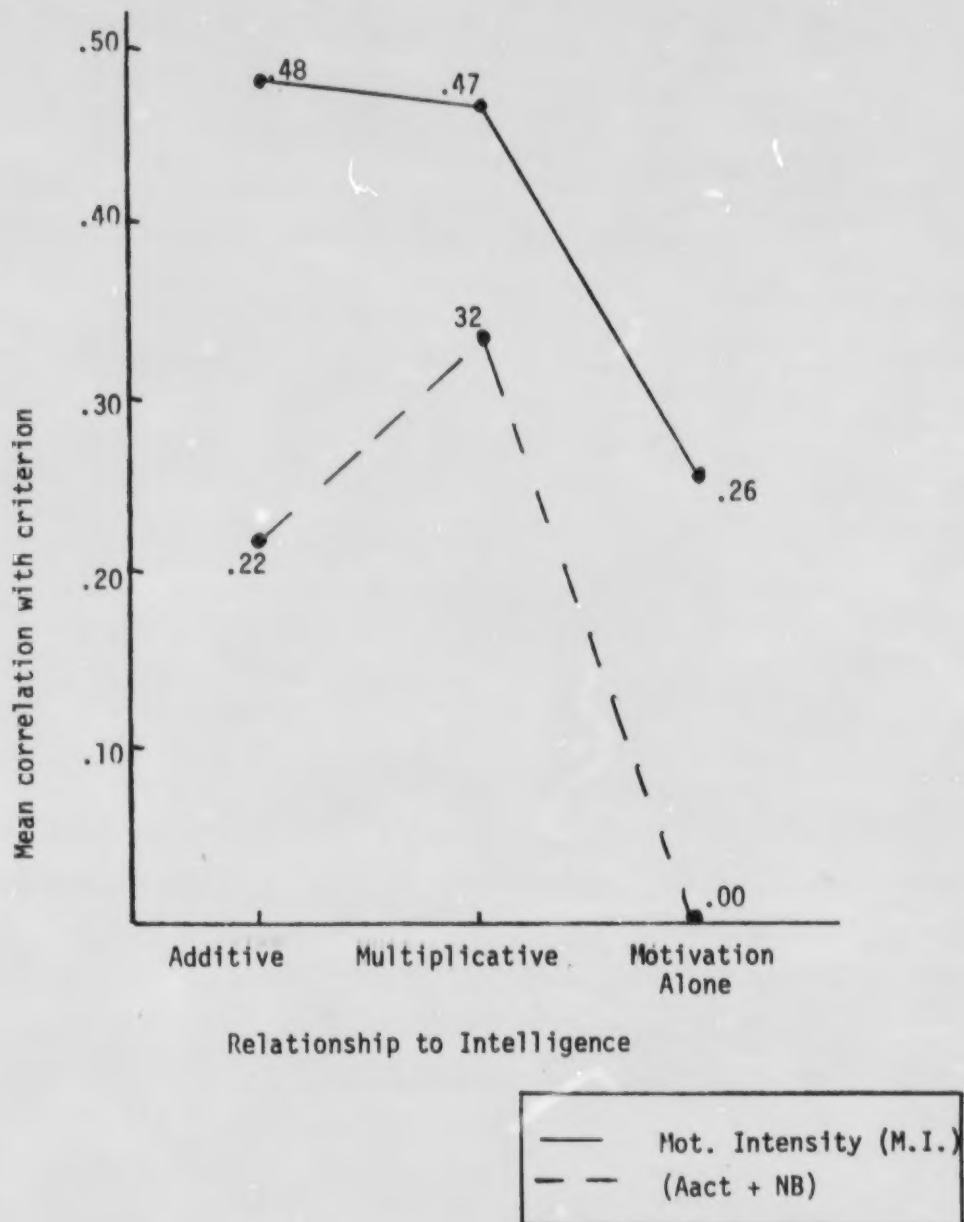


TABLE 6

Analysis of Variance Summary Table
Predicting Final Grade in Written English

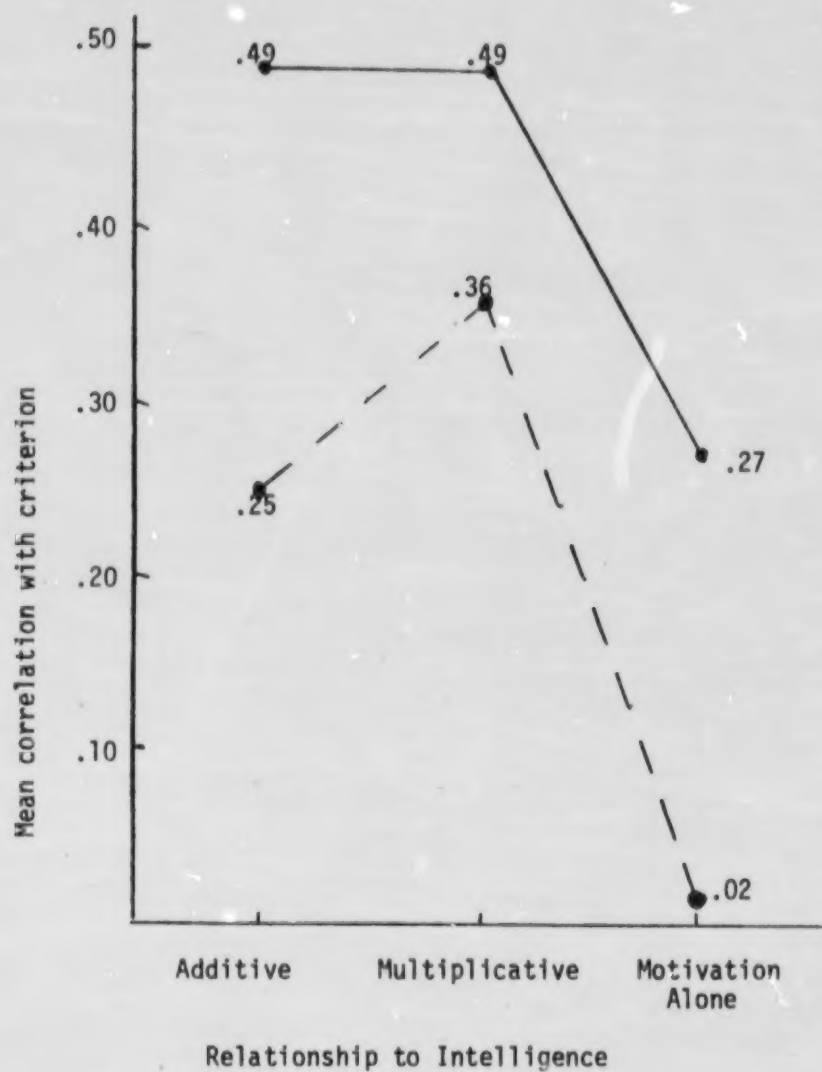
<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.775	1	.775	11.85**
A × Group (G)	.720	11	.065	
Relationship to Intelligence (B)	1.050	2	.525	40.97**
B × G	.282	22	.013	
A × B	.053	2	.027	4.26*
A × B × G	.137	22	.006	
G	2.716	11	.247	

* $p < .05$

** $p < .001$

Figure 4

Predicting final grade in written English as a function of Definition of Motivation and Type of Relationship to Intelligence



Mot. Intensity (M.I.)
(Aact + NB)

the two motivational indices differed only marginally ($q=2.81$, $p<.10$). Again, the additive and multiplicative combinations of MI with intelligence did not differ significantly ($q = .07$) while both were significantly superior to this motivational index taken alone ($q=7.80$, $q=7.73$, respectively, $p<.01$). The multiplicative combination of (Aact + NB) with intelligence produced a more accurate predictor than either the additive combination ($q=3.82$, $p<.05$) or (Aact + NB) taken alone ($q=12.02$, $p<.01$), while the additive combination was itself superior to this index taken alone ($q=8.19$, $p<.01$). This interaction is due primarily to the fact that (Aact + NB) combined multiplicatively with intelligence was superior to its additive combination whereas the additive and multiplicative models involving MI were not significantly different. Consistent with the two previous analyses, MI was generally a more potent predictor than (Aact + NB) and the combination of both motivational indices with the index of intelligence increased significantly the predictive power of the resulting models.

Discussion

The present study compared the power of various models to predict francophones' persistence in English study and their competence in English. Two operational definitions of motivation were considered. One motivation index was operationally defined in terms of Ajzen and Fishbein's (1973) predictive model according to which the individual's behavioral intention to act in a certain manner is an additive function of his attitude toward that specific act and the social norms related to that act. The second defined motivation as the amount of effort expended. This motivational index, labelled here as "Motivational Intensity", has received much attention from second language acquisition theorists (e.g. Dunkel, 1948; Carroll, 1962; Gardner & Smythe, 1975). The relationship of each of these definitions to intelligence was also investigated by focussing on both additive and multiplicative combinations.

The results related to prediction of persistence and competence differ. The motivational indices taken by themselves were better predictors of persistence than when combined with indices of intelligence. This substantiates the contention of second language researchers (e.g. Bartley, 1970; Gardner & Smythe, 1975) that persistence in second language learning is primarily a function of the individual's motivation. In addition, the attractiveness definition of motivation, (Aact + NB), was more predictive of persistence than the effort definition. Such results support the Lewinian approach to motivation and further validate Ajzen and Fishbein's (1973) model of the prediction of behavior in a choice situation.

While still supporting the above conclusion, a significant interaction effect was also obtained in the analysis of the prediction of persistence. This interaction mainly results from the differential effects of the two combinations of the two indices of motivation with the index of intelligence. The multiplicative combination of (Aact + NB) and intelligence produced relationships with the criterion which were significantly lower than the additive combination whereas the additive and multiplicative models involving MI did not differ significantly.

This interaction effect can be explained with reference to the aspect of motivation to persist specifically assessed by both motivational indices. Attraction toward re-enrolling in the English course implies positive feelings about increasing one's competence in English. The intelligent individual, however, probably knows of many other ways to develop such competence than the English course, while the less intelligent individual may tend to rely primarily on the course. This interpretation is supported by the results of study I demonstrating that the Academic Achievement factor received negative loadings from variables assessing evaluative reactions to aspects of the English course. Even though the individual might have a positive

affective orientation towards re-enrolling in the English course to achieve competence, he might not decide to do so because other learning strategies are available to him. It follows, therefore, that attractiveness and intelligence might interact to produce a poorer prediction of re-enrollment than attractiveness alone.

The addition of intelligence and attractiveness would also be expected to result in poorer prediction than attractiveness alone, but the additive function would not inflate the error of estimate as much as does the multiplicative function. The differential predictive power of the additive and multiplicative models involving the attractiveness index is therefore due to the interactive influence of intelligence and attractiveness on the individual's choice of a learning strategy.

The absence of differential results of the additive and multiplicative models involving effort can also be traced to the specific aspect of motivation assessed. Unlike attractiveness, which interacts with intelligence in the choice of a learning strategy, effort refers directly to the expenditure of energy volunteered by the individual to achieve competence in English. Since intelligence is not related to the criterion, it follows that its addition or multiplication with the index of effort will lower the accuracy of prediction. The conceptual independence of the two predictors with respect to their contribution to persistence would, however, reduce the accuracy of prediction of the additive and multiplicative models to the same extent.

Although the different interactions of the indices of motivation with intelligence sheds light on the mechanisms related to the two motivational indices, the purpose of the present study was the construction of predictive models for both persistence and competence. The model evidencing the strongest relationship to persistence was that proposed by Ajzen and Fishbein (1973), defined algebraically as:

$$BI = Aact + NB$$

[6]

Different results were observed in the analyses of the competence models, however. The models combining motivation and intelligence were better predictors of competence than the models based solely on motivation. Supporting previous findings (Gardner & Lambert, 1972; Gardner & Smythe, 1975) that both motivation and aptitude are important determinants of the individual's achievement in a second language. Furthermore, since the data were gathered from francophones learning English as a second language, it extends cross-culturally the predictive validity of the framework elaborated by Gardner and his collaborators.

The elements comprising the best models for both competence and persistence were expected on the basis of previous research. What was unexpected, however, was the differential operationalization of the motivational indices involved. Ajzen and Fishbein's (1973) model produced the best prediction of persistence, while the index of effort was the best motivational predictor of competence.

Such results should not have been totally unexpected. The literature supporting Ajzen and Fishbein's (1973) model has typically been concerned with the prediction of acts which were relatively limited in time (e.g. choices in a Prisoner's Dilemma Game, giving blood). This finite aspect of the target behaviors is characteristic of field theories and their further elaboration in terms of the expectancy value model. Lewin (1938) originally suggested that the individual's life space could be partitioned into regions, some of which are instrumental to the attainment of others. Similarly, computing the valence of an act involves the summation over all possible outcomes of the perceived relationship of this act to the outcomes times the value of this outcome. It follows that each outcome of an act makes independent contributions to the attractiveness of this act. The implication is therefore present in expectancy-value

theories and in the approach suggested by Fishbein and Ajzen (1973) that acts are best conceived as finite psychological entities.

This aspect of such models might limit their scope of application, however. For example, Raynor (1969) criticized Atkinson's (1964) need achievement theory, which incorporates an expectancy-value type model, on the grounds that the performance of numerous behaviors could not be predicted on the basis of their attractiveness alone. Raynor (1969) argued that while highly attractive, the performance of many behaviors was conditional upon the performance of numerous intermediary steps. As a result, in order to predict the ultimate behavior, allowance had to be made for the performance of the behaviors preceding it.

While the modifications suggested by Raynor (1969) to need achievement theory are not appropriate to the present situation, the essence of his criticism seems relevant. Re-enrolling in English the following year is a behavior which, like the choice situations investigated by Ajzen and Fishbein (1973), is relatively limited in time. Achieving this goal requires little energy expenditure. Achieving a good mark in English is however a different matter. The decision to get a high mark implies, *a priori*, a long term expenditure of energy. The final outcome would be achieved only if the intermediary steps of work and dedication are fulfilled. Unlike re-enrolling, a measure of the attractiveness of a high level of competence might therefore have little or no relationship to the actual outcome. Attaining a high level of competence in a second language requires the expenditure of considerable effort, hence the effort expended toward achieving that goal should be the best motivational predictor. The model proposed by Ajzen and Fishbein (1973) might, therefore, be limited to the prediction of behaviors in which performance is not conditional upon the preparatory expenditure of effort.

The relationship between effort and performance can also be used to explain the interactions obtained in all analyses of the prediction of competence. As will be recalled, these interactions were due to the fact that while both additive and multiplicative combinations of effort with intelligence produced similar predictive relationships, the multiplication of the attractiveness index with intelligence resulted in better prediction of competence than did the additive relationships. This difference can be traced back to the concepts underlying the two indices of motivation. The attractiveness index refers to the individual's affective orientation towards the specific act of doing well on English exams. The intelligent individual who is attracted towards this goal is probably aware of other more efficient strategies he can employ than the individual who is less intelligent. That is, the attractiveness of the goal and intelligence can interact in determining achievement in English. A multiplicative relationship between attractiveness and intelligence should, therefore, produce a model which is more predictive of competence in English than is an additive relationship. When motivation is defined as effort, however, it refers directly to the preparatory activities upon which performance is based. As such, it is conceptually independent of intelligence. Effort and intelligence are better conceived as two factors which make independent contributions to the level of proficiency attained by the student. Hence, the additive and multiplicative combinations of effort and intelligence while improving prediction, should not do so differentially.

The significant interactions found in the analysis of the three competence measures thus support and qualify previous conceptualizations regarding the optimal relationship of motivation to intelligence. The higher predictive power of the model including the attractiveness index is consistent with the contentions of applied scientists concerned with the prediction of work performance (e.g. Vroom, 1964) as well as those of theorists interested in the derivation of an abstract model of man's behavior (e.g. Atkinson, 1964; Atkinson & Birch, 1970).

Furthermore, the present results suggest that the confusion regarding the most adequate theoretical relationship between ability and motivation (see Mitchell & Nebeker, 1973) might have been due to different operationalizations and the corresponding concepts underlying the indices of motivation which were employed.

It should be noted that the differential predictive power of the additive and multiplicative models involving ($A_{act} + NB$) and the absence of a difference between those two models when MI was used as a motivational estimate were consistent across the analyses of competence and persistence. Although reverse results were obtained for persistence and competence, their interpretations hinge on the same conceptualizations underlying the two approaches to motivation. Attractiveness refers to the affective orientation towards an act. As such, it interacts with intelligence in determining the specific behaviors which will be instrumental in achieving the goal. Effort, however, refers to the actual amount of energy devoted to the achievement of the goal. As such, its contribution is independent of intelligence. It follows that while the additive and multiplicative combinations of effort with intelligence would produce similar results, such would not be the case when motivation is defined as attractiveness.

Regardless of the theoretical implications of the present findings, this study was intended primarily to derive a general predictive model with respect to second language competence. The results indicate that both the additive and multiplicative combinations of MI with intelligence yield the best and comparable predictions. The choice of a single predictive model must therefore be made on some basis other than an empirical one, and one basis for such a choice is its simplicity. In this respect, the additive relationship between the elements of the model is preferable to a multiplicative relationship. The model of competence proposed here is, therefore, the additive function of the effort expended by the individual to learn English and his aptitude. Algebraically:

$$C = MI + APT$$

[11]

In summary, three conclusions can be drawn from the present study. First, the results obtained document further the predictive and cross-cultural validity of Gardner and Smythe's (1975) contentions regarding the role of motivation in persistence and the role of both motivation and aptitude in the individual's competence in a second language. The analysis used in the present study to test the various models took into account the variability of the predictive power of the models across samples. As a result, the models selected are relatively robust with respect to sample fluctuations.

Second, the present study has provided insight into the mechanisms underlying two conceptualizations of motivation. The analyses of the prediction of competence reveal that the attractiveness conceptualization of motivation results in better prediction when considered in terms of a multiplicative relationship with indices of aptitude. An increase in attractiveness of the goal will therefore have a greater effect on the performance of the intelligent individual than on that of the less intelligent individual. Such a differential prediction was not obtained when motivation was defined in terms of effort expended; effort and ability are best conceived of as making independent contributions to the individual's performance.

Third, the results of the present study suggest a limitation of Ajzen and Fishbein's (1973) model. Consistent with the findings reported by these authors, their model is highly predictive of behaviors which are relatively limited in time

and do not imply, a priori, the expenditure of energy. When the target behavior, however, involves sustained energy expenditure, an index of motivation defined in terms of effort appears to be the best motivational predictor.

CHAPTER 4

Study III

Study III was conducted to extend the generality of the findings obtained in study I and to test the interpretation proposed in its conclusion. The framework proposed by Gardner (Gardner and Lambert, 1959, 1972; Gardner & Smythe, 1975) holds that an integrative motive fosters the acquisition of a second language. It is of considerable interest, however, that with some samples of anglophone students, French classroom anxiety has tended also to correlate with measures of second language achievement even though it was relatively independent of the integrative motive. Recently, (Gardner, Smythe, Clément & Glikzman, 1976) it has been suggested that further attention be directed towards closer examination of the role of anxiety in second language achievement.

The composition of the Self-Confidence with English factor obtained in study I points to the important role of anxiety as a motivational factor underlying the acquisition of English by francophone students. In fact, this factor more clearly included indices of achievement in English than the Integrative Motive factor. The pattern of loadings obtained in study I supported the interpretation that the individual's self-confidence with English was an independent motivational dimension associated with his prior experience with the language outside the school setting.

The independence of the Self-Confidence factor from the Integrative Motive factor, however, might have been due to measurement characteristics rather than reflecting a truly independent motivational component. Ajzen and Fishbein (1975), Wicker and Pomazal (1971), Weigel, Vernon and Tognacci (1974) and Heberlein and Black (1976) provide evidence supporting the fact that a higher relationship is obtained between scales which refer specifically to a criterion than scales which refer only generally to a criterion. The anxiety scales used in study I referred specifically to the anxiety experienced by the individual when speaking English. As such, they are more related to the behavior of the individual confronted with an oral English examination than any other scales of the battery. Such relationships reflecting content specificity, in fact, might account for the findings for the grade 11 sample in study I since the oral English mark and not the written English mark loaded on the Self-Confidence dimension. Thus, the apparent independence of the Self-Confidence factor from the Integrative Motive factor might be due to the specificity of the anxiety scales and their ensuing high correlation with indices of competence.

In addition to clarifying the relationship between the Integrative Motive and Self-Confidence dimensions, the present study is meant to investigate further the defining characteristics of the Self-Confidence with English dimension. In study I, it was suggested that such self-confidence results primarily from the use of two languages in the home environment. While this might be the case, two considerations appear worthwhile.

First, anxiety and lack of self-confidence might arise because the individual francophone feels threatened that he will lose his cultural identity if he speaks English. Taylor and Simard (1975) originally suggested that threat to assimilation might be a potent motivational aspect influencing inter-ethnic communication. Taylor, Ménard and Rheault (1975), furthermore, report a factor analytic study in which variables assessing aspects of cultural assimilation formed a factor which was independent from what was labelled as an Integrative Motive factor, but related to self-ratings

of proficiency in English. The existence of such a motivational dimension affecting francophone's learning of English is further supported when one considers the fact that Quebec's North American location subjects French culture and language to a relatively powerful English pressure and furthermore, that historically, francophones have valued their resistance to assimilation. If self-confidence with English originated from feelings of impending loss of cultural identity, variables assessing such threat would then be expected to load on the Self-Confidence with English factor.

Second, the Self-Confidence factor might best be considered from a less-situation specific point of view. The individual reporting a high level of anxiety when speaking English might also be anxious in a number of other situations where he has to interact with other people. The anxiety factor found in study I might thus reflect the individual's general anxiety level. If such is the case, the individual who is anxious when using English should also be anxious when using French (e.g. in the French classroom), or simply when in the presence of other persons regardless of the language used.

In addition to clarifying the interpretation of the Self-Confidence dimension, the present study dealt with methodological considerations growing out of study I. Four modifications were made to the attitude/motivation battery and more objective indices of English proficiency were sought. First, with respect to the attitude/motivation battery, the "instrumental orientation" scale was found in study I to produce Kuder-Richardson coefficients (see Appendix A) of .45 for grade 10 and .32 for grade 11. The pattern of loadings evidenced by this scale was consistent across both samples. It would be advantageous, however, in order to ascertain its relationship with other variables, to assess this orientation with a scale evidencing higher internal consistency. Even though both integrative and instrumental orientations could operate simultaneously, it would be advantageous to include in the scale assessing them, items which would discriminate between the two orientations. In a factor analytic study conducted by this author (unpublished), the goals potentially achieved through learning French as a second language were grouped on three relatively independent factors. Two of those factors corresponded respectively to an integrative orientation (i.e. learning a second language to learn about and participate in the culture of the other group) and an instrumental orientation (i.e. learning a second language to achieve pragmatic goals). The third factor was best identified as a "manipulative orientation". This latter orientation corresponds to learning a second language in order to gain control and dominate individuals from the second language speaking group. This orientation had previously been mentioned by Gardner and Lambert (1972, pp. 2,4), however, no research has been conducted to formally assess it. The "integrative" and "instrumental" orientation scales were therefore re-written for study III and a "manipulative orientation" scale was developed.

A second alteration to the attitude/motivation battery is related to the Anomie scale. The scale used in study I was translated from the corresponding scale used by Gardner and Smythe (1975). This scale was itself based on a scale developed by Srole (see Merton, 1957, pp. 164-165) meant to assess feelings of dissatisfaction with one's own community. In contrast, the concept of Anomie as it relates to second language acquisition was referred to originally (c.f., Gardner & Lambert, 1972) as a feeling of 'non-belonging' experienced by individuals learning a second language when having to cope with two cultures. The Anomie scale was therefore replaced by an "English Learning Anomie" scale assessing specifically this feeling of lack of cultural identity resulting from the learning of English. A third modification to the attitude/motivation battery consisted of the addition of a scale assessing the amount of contact the individual has with anglophones. In study I, the Self-Confidence factor received loadings from variables assessing the individual's past experience with English. In an attempt to more systematically assess this

experience with English outside the classroom, Major (1976) devised a scale of "reported contact with English Canadians". This scale proved to be internally consistent with a franco-Ontarian sample of grade seven and eight students and was included in the test battery used in the present study.

The fourth and final alteration to the attitude/motivation battery is related to the assessment of the individual's behavioral intention to re-enroll in English the next year. This measure of persistence was previously assessed through ratings on a two or three point scale. In line with the procedure used by Ajzen and Fishbein (e.g. 1972) which provides an interval scale, the subjective probability of re-enrolling in English the following year was rated on a seven point scale.

Modifications were also made to the assessment of English proficiency. One index of English achievement used in study I consisted of a uniform standardized test to which the student responded one or two years before the administration of attitude tests. Unless one could assume perfect test-retest reliability, it constitutes a somewhat inaccurate index of proficiency in English at the time the attitude and motivation measures were taken. The two other achievement measures, the final grades, were based on answers to questions which varied slightly from teacher to teacher. The oral expression part was an individual examination involving the specific English class teacher as an examiner. Even though those grades were standardized for purposes of analysis, it would be advantageous to structure the proficiency test so that the resulting indices would correspond to performance on tasks which would be uniform for all individuals. Study III thus involved such standard indices of competence in English.

In summary, study III was conducted to clarify the status of the Self-Confidence dimension in second language acquisition, both with respect to its relation to the Integrative Motive and its own intrinsic composition. This was achieved by adding new scales to the battery and further refining those already used. The new scales included assessments of anxiety at various levels of specificity as well as measures of individual's "threat to cultural identity".

Method

Subjects

The subjects in this experiment were 223 grade 11 students attending two schools of the Montreal Catholic School Commission. The two schools were chosen to ensure the selection of students from widely different socio-economic status. From these schools, 78 students (35 males, 43 females) were tested in a lower socio-economic class area of Montreal, and data were obtained from 145 students (58 males, 87 females) attending a school in a middle socio-economic class area.

Materials

The test battery used in this study included scales used previously in study I and new scales designed for this study. The scales from study I used here were chosen for their appreciable loadings on the three factors of interest (i.e. Integrative Motive, Self-Confidence, Academic Achievement). They are:⁵

⁵ The numbers appearing in brackets correspond to the ordinal position of that scale in the factor matrix to be presented subsequently.

- (2) Degree of Instrumentality
- (3) Degree of Integrativeness
- (11) English Class Anxiety
- (12) English Use Anxiety
- (13) Attitude toward English Canadians
- (14) Attitude toward Learning English
- (15) Attitude toward Americans
- (19) Motivational Intensity
- (21) Number of Years Learning English
- (22) Number of Languages Spoken at Home
- (24) Writing - Self-rating
- (25) Understanding - Self-rating
- (26) Reading - Self-rating
- (27) Speaking - Self-rating
- (31) Standardized Index of Intelligence
- (32) Standardized Test Score of French
- (33) Standardized Test Score of Mathematics
- (34) Standardized Test Score of English

In addition, nine new scales were designed or modified specifically for this study. The items constituting these scales and related Kuder-Richardson/20 coefficients computed on the present sample are presented in Appendix C and a short description of each of them follows. Seven scales which employed a Likert format were:

- (5) English Learning Anomie. This scale assesses the feelings of normlessness and confused cultural identity perceived by the student to result from his learning English. Three items were worded positively and three negatively. A high score (maximum=42) reflects a high feeling of Anomie.
- (6) French Classroom Anxiety. This scale is adapted from the Gardner and Smythe (1975) General Classroom Anxiety scale and assesses the anxiety felt by students whenever they have to speak in the French class. Three items were worded positively and three negatively. A high score (maximum=42) reflects a high degree of anxiety in the French classroom.
- (8) English Speaking Threat. This scale assesses specifically feelings of assimilation experienced by the student whenever he has to speak English. Three items were worded positively and three negatively. A high score (maximum=42) suggests that the individual feels culturally threatened when he speaks English.
- (9) English Learning Threat. This scale assesses the student's perception

of whether or not learning English might lead to the cultural assimilation of francophones. Three positively and three negatively worded items constituted this scale and a high score (maximum=42) reflects the perception of a danger of assimilation.

- (7) English Test Anxiety. This scale is inspired by Mandler and Sarason's (1952) Test Anxiety Questionnaire. It is meant to assess feelings of anxiety before and during a written English examination. Six items (three positive and three negative) constituted this scale. A high score (maximum=42) indicates a high degree of anxiety when writing English exams.
- (4) Generalized Inter-personal Anxiety. This scale is inspired from the Audience Sensitivity Index (Paivio & Lambert, 1959) and assesses the feeling of discomfort experienced by the student whenever he is in the presence of other people. Three positive and three negative items constituted this scale. A high score (maximum=42) reflects a high degree of reported anxiety when in the presence of other people.
- (10) Manipulative Orientation. This scale, consisting of five positively worded items, assesses the importance for the student of learning English in order to control and eventually dominate anglophones. A high score (maximum=35) indicates a pronounced manipulative orientation underlying the acquisition of English.

Two of the new measures involved ratings on seven-point scales:

- (18) Reported Contact. This scale assesses the frequency with which the individual interacts or is involved with the English language in various situations (e.g. watching T.V., on the phone). Subjects answered these items on seven-point scales defined at one end by "Jamais" (never) and at the other end by "Tout le temps" (always). A high score (maximum=42) indicates a high frequency of use of English.
- (20) Behavioral Intention to Re-enroll in English. Students rated the probability that, given the choice, they would re-enroll in the English course next year. Ratings were made on a seven-point scale defined at one end by "définitivement oui" (definitively yes) and at the other end by "définitivement non" (definitively not).

Three new indices of English proficiency were also included in the present study. Those indices are subscales created by partitioning and modifying the items included in the test designed by the Catholic School Commission for grade 9 students. This was the most adequate standardized test available for the population tested. These indices were:

- (28) Aural Comprehension. This subtest assesses the ability of the student to understand spoken English. The students listened to a tape recording and indicated on their answer sheets the meaning of the speaker's utterance. A high score (maximum=20) reflects a high ability to understand spoken English.
- (29) Reading Comprehension. In this subtest, the student read a short passage and answered questions assessing his comprehension of the passage. A high score (maximum=12) reflects a high ability to understand written English.

- (30) Grammatical Knowledge. This test included fifteen items primarily assessing the student's knowledge of English syntactic constructions. A high score (maximum=15) reflects considerable knowledge of English syntax.

Five scales developed primarily for study IV were also included in the present factor analysis. They were included in the factor analysis in order to assess their relationship to other variables thus clarifying their descriptive meaning. These scales were:

- (23) Behavioral Intention to Get Good Marks. Students rated the statement "I want to obtain good marks on my English exams" on a seven-point scale defined at one end by "définitivement non" (definitively not) and at the other end by "définitivement oui" (definitively yes).
- (16) Attitude toward the Act of Re-enrolling in the English Course the Following Year. The phrase "re-enrolling in English next year would be..." was rated on four evaluative semantic differential scales: fou-sage (foolish-wise); bon-mauvais (good-bad); nuisible-bénéfique (harmful-beneficial); plaisant-déplaisant (pleasing-displeasing).
- (17) Attitude toward the Act of Getting Good Marks on English Exams. The phrase "getting good marks on English exams would be..." was rated on the same four semantic differential scales as those used above for the attitude toward re-enrolling in English scale.
- (36) Social Norms Related to Persisting in Learning English. This scale assesses the influence of social norms on the individual's persistence in studying English. As suggested by Fishbein and Ajzen (1975), this score is the product of two variables. One is the perceived normative beliefs related to taking English the following year and the other is a measure of the individual's intention to comply with these norms. Each element is assessed as follows:

Normative Beliefs: The students were asked to rate the statement: "The persons I value most expect me to re-enroll in English next year" on a seven-point scale defined at one end by "extrêmement probable" (extremely probable) and at the other end by "extrêmement improbable" (extremely improbable).

Motivation to Comply: Students were asked to rate their willingness to comply with the advice of people they value most on a seven-point scale defined at one end by "pas du tout" (not at all) and at the other by "extrêmement" (extremely).

- (35) Social Norms Related to Getting Good Marks on English Exams. Conceptually similar to the previous measure, this variable assessed the impact of social norms on the individual's intention to get good marks on English exams. It is a multiplicative function of the perceived normative beliefs related to getting good marks and the individual's motivation to comply with those norms.

Normative Beliefs: The students were asked to rate the statement: "The people I value most expect me to get good marks on my English exams" on a seven-point scale defined at one end by "extrêmement probable"

(extremely probable) and at the other end by "extrêmement improbable" (extremely improbable).

Motivation to Comply: Students were asked to rate their willingness to comply with the advice of people they value most regarding their getting good marks on English exams on a seven-point scale defined at one end by "pas du tout" (not at all) and at the other end by "extrêmement" (extremely).

Procedure

Testing was conducted during two one-hour sessions scheduled one month apart. Both sessions were conducted during regular class hours. In the first session, the experimenter (the author) introduced himself as a doctoral candidate and read general instructions informing the student of the general purpose of the study and stressing the confidentiality of their answers. The students then proceeded to answer the attitude/motivation battery. For the second session, another experimenter met with the students. This second experimenter introduced herself as a university student and no mention was made of the relationship between the two testing sessions. Rather, the study was presented as a research project aimed at assessing the level of proficiency in English of high school students. The second experimenter assured the students that their performance on the proficiency test would not affect their academic record and urged them to do their best. The students then proceeded to answer the proficiency test which included the three subscales (Variables 28, 29, 30) described previously.

The score obtained by the students on the standardized tests of English, French and Mathematics at the end of grade 9 as well as their index of intelligence at the end of grade 8 were secured from the school board's records.

Results

Before factor analysing the results obtained on the 36 measures described above, the data were standardized within each school. This was done in order to eliminate differences between the two schools which might tend to confound the relationships among the variables.

The correlation matrix for the 36 variables is presented in Appendix D. This matrix was factor analyzed by means of the principal axes procedure. Upon application of the Scree test (see Cattell, 1966; Cliff, 1970) three factors were judged "non-trivial" and rotated to simple structure by means of the varimax rotation procedure. The resulting factor matrix is presented in Table 7.

Factor I receives appreciable loadings (greater than $\pm .3$) from fifteen variables. The pattern of the loadings suggests that the individual who has a positive attitude toward learning English (Variable 14) is both "integratively" (Variable 3) and "instrumentally" (Variable 2) oriented and has a positive attitude toward re-enrolling in English the following year (Variable 16). Such an individual is also motivated (Variable 19) to learn English, has a positive attitude toward English Canadians (Variable 13) and Americans (Variable 15), intends to re-enroll in English the following year (Variable 20) and to get a good mark on English exams (Variable 23). Furthermore, such individuals report a high frequency of use of English outside the classroom (Variable 18), evidence a manipulative orientation toward the acquisition of English (Variable 10) and feel they are motivated to obey

social norms favoring good marks in English (Variable 35) and persistence in its acquisition (Variable 36). Finally, this individual reports little feelings of assimilation when speaking English (Variable 8). This factor is composed of motivational and attitudinal indices typical of the patterns reported by Gardner and his collaborators (e.g. Gardner & Lambert, 1972; Gardner & Smythe, 1975). It seems therefore best identified as an Integrative Motive factor.

Factor II also receives appreciable loadings from fifteen variables. Those loadings suggest that the individual who is self-confident in his ability to speak, read, write and understand spoken English (Variables 27, 26, 24 and 25) reports little anxiety when speaking in the English classroom (Variable 11) and in public (Variable 12) and when writing an English exam (Variable 7). Such an individual also reports a relatively high frequency of use of English (Variable 18), much prior experience with the language (Variables 21 and 22) and little anxiety whenever in the presence of other people (Variable 4). Finally, this individual is motivated to learn English (Variables 14 and 19) and evidences a relatively high knowledge of English on tests of aural comprehension (Variable 28) and grammatical knowledge (Variable 30). Because of the contributions from the self-ratings of proficiency and the anxiety variables, this factor seems best labelled as a Self-Confidence with English factor.

Factor III receives appreciable loadings from ten variables. The configuration of loadings suggests that the individual who has relatively high marks on the various indices of English proficiency (Variables 28, 29, 30, 34) is also intelligent (Variable 31) and competent in French (Variable 32) and Mathematics (Variable 33). Such an individual reports little feelings of anomie as a result of learning English (Variable 5), little manipulative intent in learning English (Variable 10) and tends to have a positive opinion of his own ability to understand spoken English (Variable 25). Because this factor receives its major loadings from variables assessing academic achievement, it is best labelled as an Academic Achievement factor. A lack of anomie and manipulative intent, however, further characterizes what appears to be the most proficient high school population,

Discussion

The present results parallel closely those obtained in study I. Substantiating further Gardner's approach, the individual's motivation to learn English appears to be related to his attitude toward the second language community as well as a willingness to interact with its members. This interaction, however, appears to fulfill many needs which include participating in the culture of the other group (integrative orientation), gaining pragmatic advantages from such an interaction (instrumental orientation), as well as controlling and dominating individual members of the other group (manipulative orientation). In spite of the efforts made in this study to develop pure measures of the instrumental and integrative orientations, both variables loaded highly on the first factor. This configuration which is common to previous studies of anglophones (e.g. Gardner and Smythe, 1975) and francophones (see study I) suggests further (see Smythe, Stennett and Feenstra, 1972) that the instrumental and integrative orientations are not necessarily antithetical to each other nor are they independent. Both appear to be positively correlated with the individual's attitude towards the second language community (see Appendix D). Because of this, the label Integrative Motive applied to a factor receiving loadings from both the instrumental and integrative orientations appears warranted. It should be noted, however, that the two scales are correlated ($\bar{r}=.56$). Yet, the items included in both scales typify obviously different orientations

toward the learning of English. The correlation might in part be due to the common stem of all items included in both scales--"learning English is important because...". It seems, however, that, if the two concepts are retained, further research concerned with their discriminative validity is required.

The manipulative orientation scale loaded on the Integrative Motive factor, however, it also loaded on the Academic Achievement factor. The manipulative orientation is related positively to the Integrative Motive factor suggesting that such an orientation might be an incentive to the acquisition of English. However, it is related negatively to the Academic Achievement factor. In so far as this last factor appears more related to achievement in English than the former, a manipulative orientation might be adverse to the acquisition of proficiency in English. In other words, although no causal relationship is inferred, those individuals who are relatively intelligent and proficient in English tend not to learn English in order to control and dominate individual anglophones.

A further clarification of the Integrative Motive found in the present study is related to the English Speaking threat variable. This variable assessed the feelings of impending loss of cultural identity occurring to the individual when speaking English. Taylor, Ménard and Rheault (1975) suggested that this threat to one's identity might very well be a motivational dimension independent of the Integrative Motive. The results presented above suggest that the threat felt by the individual when speaking English is not independent of the Integrative Motive. Rather, the individual evidencing an integrative motive reports little or no fear of assimilation when speaking English. The present results therefore contradict Taylor, Ménard and Rheault's (1975) contention. Threat to assimilation appears more simply conceptualized as located at the lower end of an integrative motive unidimensional continuum.

Two alternate explanations of the Self-Confidence factor were suggested in the introduction. First, it was suggested that the Self-Confidence dimension might be independent of the Integrative Motive dimension because of the content specificity of the scales defining it. The Self-Confidence factor obtained in the present study, however, receives appreciable loadings from variables both specifically and generally related to proficiency. This suggests that the specificity of the variables assessing anxiety are not responsible for the independence of the Self-Confidence factor from the Integrative Motive factor. Further support for this conclusion is obtained from the loadings of some variables on the Integrative Motive factor. The variables assessing the individual's behavioral intention to get a good mark in English exams, his attitudes and the social norms related to such an outcome all load on the Integrative Motive factor. Since those variables are also specific to the proficiency measures, it would seem they also would load on the Self-Confidence dimension if this factor resulted from the specificity of the variables. It seems reasonable to conclude, therefore, that the Self-Confidence factor truly represents an independent motivational process, unrelated to the integrative motive and not artificially due to the specificity of the variables it comprises.

But there still remains an alternative interpretation of the Self-Confidence factor. It was suggested in the introduction to this study that the individual who is anxious when speaking English might also be anxious when interacting with other persons. The Self-Confidence factor would then reflect a generalized personality characteristic rather than a motivational process specifically related to English. The fact that the Generalized Interpersonal Anxiety variables loads on the Self-Confidence suggests that such might be the case. However, for such an explanation to hold, the factor should also include loadings from the measure of French Classroom Anxiety, which it does not.

A consistent explanation of the loading pattern of the Generalized Interpersonal

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TABLE 7

Rotated Factor Matrix

Variable	I	II	III
1. Sex	.10	-.10	.23
2. Degree of Instrumentality	.72	-.13	-.06
3. Degree of Integrativeness	.73	.11	-.15
4. Generalized Interpersonal Anxiety	.07	.38	-.02
5. English Learning Anomie	-.22	-.13	-.39
6. French Classroom Anxiety	.21	-.13	-.05
7. English Test Anxiety	-.03	-.61	-.27
8. English Speaking Threat	-.39	-.25	-.24
9. English Learning Threat	-.10	-.17	.03
10. Degree of Manipulativeness	.51	-.12	-.32
11. English Classroom Anxiety	.10	-.75	-.01
12. English Use Anxiety	-.02	-.76	.05
13. Attitudes toward English Canadians	.70	.08	-.28
14. Attitudes toward Learning English	.78	.31	.05
15. Attitudes toward Americans	.46	-.05	-.05
16. Attitudes toward the Act - Persistence	.72	.02	.04
17. Attitudes toward the Act - Good Marks	.40	.03	.15
18. Frequency of Use	.58	.42	-.08
19. Motivational Intensity	.65	.35	.08
20. Behavioral Intention to Re-enroll in English	.64	.00	.01
21. No. of Years Studying English	-.09	.34	.00
22. No. of Languages Spoken at Home	.15	.58	-.02
23. Behavioral Intention to Get a Good Mark	.56	.14	.16

24. Writing - Self-rating	.14	.75	.20
25. Understanding - Self-rating	.02	.74	.31
26. Reading - Self-Rating	.09	.79	.17
27. Speaking - Self-rating	.06	.86	.09
28. Aural Comprehension	-.05	.36	.58
29. Reading Comprehension	.03	.16	.67
30. Grammatical Knowledge	.02	.31	.79
31. I.Q.	-.15	-.02	.72
32. Standardized Test Score of French	-.15	-.03	.80
33. Standardized Test Score of Mathematics	-.09	-.11	.77
34. Standardized Test Score of English	-.03	.20	.77
35. Social Norms - Good Mark	.46	-.02	.09
36. Social Norms - Re-enrolling	.48	-.21	-.05

Anxiety variable might, however, be related to the type of feeling it assesses. Its loading on the Self-Confidence factor might be due to the fact that it assesses anxiety as do other more situation-specific measures of anxiety loading on this factor. The anxiety component as opposed to the pervasive nature of the anxiety experienced by the individual in English use situations would thus be responsible for the Generalized Interpersonal Anxiety variable loading on the Self-Confidence factor. It thus follows that the alternative interpretation of the Self-Confidence dimension as reflecting a general anxiety trait can be rejected. Owing to the major loadings from variables assessing specifically the individual's anxiety, perceived proficiency and actual proficiency in English, it appears considerably more likely that this dimension is distinctly related to English.

Summarizing the interpretation of the Self-Confidence factor, it appears that its independence, from the Integrative Motive is not due to the specificity of the scales constituting it. Further, its anxiety components are not related to the individual's feelings of threat to assimilation when speaking English nor are they symptomatic of a generally anxious personality. Rather, in line with the interpretation proposed in study I, the Self-Confidence dimension is related to the individual's prior experience with the language, primarily outside the classroom. The individual speaking both English and French at home and reporting a relatively high level of contact with anglophones outside the classroom is the one who evidences confidence in his proficiency in English and lack of anxiety when using it both in the classroom and outside the classroom. He is also the individual who is motivated to learn English and evidences relative proficiency on objective tests of competence. The present results, therefore, support the contention that, both an integrative motive, and self-confidence with English are important components of francophones' motivation to learn a second language.

This later factor is not found in most factor analytic studies of anglophones learning French as a second language. It should be noted, however, that recent results (Gardner et al., 1976) suggest that even for anglophone populations, French Classroom Anxiety is a relatively potent predictor of proficiency, independent of the Integrative Motive.

Thus, although a Self-Confidence factor has not been obtained in studies of anglophones, its anxiety component has been shown to be related to French proficiency among anglophones. The reason why such a factor has not been isolated in the anglophone studies is suggested by the results of studies I and III. Self-Confidence with English appears strongly related to the individual's actual use of English in real life situations. In so far as such "live" use of the language is not generally available to the anglophone populations living outside Quebec, actual practice and the resulting self-confidence with the second language would not be expected to result as a unique factor.

This interpretation implies that the apparent difference in motivational characteristics of francophones and anglophones learning a second language might be better understood in terms of opportunity for contact with the second language speaking group than in terms of any cultural differences. It would therefore be expected that a Self-Confidence motivational dimension might be obtained for anglophones living in an area where opportunity for contact with francophones is frequent. In point of fact, examination of recent data collected by Gardner and his collaborators (unpublished) on a sample of grade 11 Montreal anglophone students supports this interpretation. This analysis reveals that the anglophones' self-rating of proficiency, actual proficiency, French Classroom Anxiety, motivation to learn French and reported opportunity for use form a factor similar to the Self-Confidence dimension obtained here which is independent of the Integrative Motive. Such results suggest that the availability of contact for both ethnic

groups will condition the appearance of a motivational dimension, distinct from the Integrative Motive, which corresponds to the ease with which the individual interacts with members of the other community. The addition of the self-confidence motivational construct to the framework already elaborated by Gardner and his collaborators therefore seems essential.

The frequency of use variable loads on both the Integrative Motive and Self-Confidence factors, suggesting a theoretical link between the underlying processes. The measure of frequency of use has already been shown to be related to the Integrative motive by Clément, Gardner and Smythe (1975), who found that anglophone students evidencing more positive attitude toward francophones, when put in a francophone environment, made contact with their hosts more frequently than students who had less positive attitudes. In the present case, therefore, it seems reasonable to conclude that an integrative motive fosters contact with anglophones. In a bi-cultural community like Montreal, such contact is possible, and to the extent that it is rewarding, the individual will acquire self-confidence with his English skills which in turn will motivate him to improve his competence in the second language.

The third and last factor, labelled as an Academic Achievement factor is reminiscent of the theoretical orientation attempting to describe second language acquisition in terms of aptitude (e.g. Carroll, 1962). Clearly, the intelligent individual will do well in English as well as in other academic subjects. Such a general academic achievement dimension is not uncommon in earlier studies (e.g. Gardner and Smythe, 1975) and substantiates Gardner and Lambert's (1959) early contention that both aptitude and motivation were important in accounting for proficiency in a second language. Of greater interest here, however, are the attitudinal variables loading on this factor. Apart from a negative loading of the manipulative orientation variable, this factor receives an appreciable loading from the English Learning Anomie scale. It will be recalled that this scale was designed in order to reflect more accurately the feeling of normlessness experienced by the individual caught between two cultures which was originally discussed by Gardner and Lambert (1972). The present results suggest that the high academic achiever evidences relatively little such anomie. In so far as this high achiever is also relatively proficient in English, the present results do not support Gardner and Lambert's (1972) contention that the acquisition of a second language fosters feelings of anomie or normlessness. Rather it appears that the relatively intelligent individual, while proficient in English, is able to cope with his identification with both cultures.

In summary then, the present study partly supports and partly qualifies Gardner's model of second language acquisition. In line with Gardner's model (see Gardner and Smythe, 1975), intention to persevere in English study is related uniquely to the integrative motive. Also further substantiating Gardner's approach, proficiency in English is a function of both aptitude and motivation and motivation is related partly to the individual's attitude toward the second language speaking group and a willingness to participate in the culture of the other group. Departing from the framework suggested by Gardner, however, is the fact that the motivation to learn a second language is also anchored in what has been described as the individual's self-confidence. Since similar results were found for an anglophone sample living in the same setting, it seems appropriate to conclude that the advent of the Self-Confidence motivational dimension is conditional upon the availability of the other culture. For groups which have opportunities for contact with the other culture, two motivational mechanisms seem to be operating. One refers to the individual's actual experience with the language and his resulting confidence with it while the other is related to the affective predispositions of the individual towards the second language speaking community. In so far as the first motivational process is related to actual use of the language as opposed to an affective orientation, it

is reasonable that it would evidence a stronger relationship to indices of English proficiency as it does.

The absence of a relationship between the indices of proficiency and the Integrative Motive should not, however, be taken as evidence for its lack of influence on the individual's competence. As evidenced by the relative magnitude of the motivational indices, Motivational Intensity and Attitude toward learning English, on the two motivational factors a greater part of the individual's motivation to learn a second language derives from an integrative motive than self-confidence with the second language. It has been recently demonstrated by Gardner and Smythe (1976) that the influence of the attitudinal variables comprising the Integrative Motive on the individual's competence in a second language are mediated by his motivation to learn the second language. Thus, while the Integrative Motive might evidence no relationship to indices of competence in English, it is suggested here that its impact is mediated by the individual's motivation to learn a second language and when it is available by his contact with the other culture.

It should be noted that in the present study only three factors were obtained compared to four in the first study. This is due, as will be noticed, to the omission of the self-evaluation and teacher-evaluation variables which constituted the Alienation factor in study I.

CHAPTER 5

Study IV

Study IV was planned as a validation and further refinement of the results obtained in study II regarding the predictive power of various models. One conclusion suggested by the results of study II was that while behaviors which were finite in time were more accurately predicted by a motivational component defined in terms of the attractiveness of the behavior, behaviors which required a priori sustained energy expenditure were more accurately predicted by an index of motivation defined in terms of effort. An alternative explanation is, however, possible. In addition to requiring sustained energy expenditure over time, achieving a good mark on English exams is not entirely under the volitional control of the individual. The combination of an index of intelligence with the estimate of effort increased substantially the predictive power of the resulting model. It is possible, therefore, that the differential results obtained with respect to the predictive power of the two indices of motivation might be due to the individual's volitional control over the various behaviors as opposed to their implications regarding the energy which must be expended to achieve them. If such were the case, a behavior which was under the volitional control of the individual but which also implied sustained energy expenditure should be most accurately predicted by an attractiveness index of motivation. If the interpretation presented in study II was correct, however, a criterion behavior requiring energy expenditure but nonetheless under the volitional control of the individual should be most accurately predicted by an effort index of motivation. A criterion variable which would permit the test of these competing hypotheses is included in Fishbein and Ajzen's (1973) model. It will be recalled from the general introduction that Fishbein and Ajzen's model was stated formally as follows:

$$B = BI = Aact_{w0} + NB_{w1} \quad [1]$$

The immediate antecedent of the behavior (B) is the individual's intention to behave (BI) and BI is a function of (Aact + NB). Since all variables external to the model are assumed to be mediated by (Aact + NB), this justified the procedure used in study II which correlated (Aact + NB) directly with B, disregarding the intermediary step, BI. For the purpose of the present study, however, a test of the predictive accuracy of the various models with respect to the individual's behavioral intention to get a good mark might be useful. Indeed, as a criterion, behavioral intention to get a good mark on an English exam is under the volitional control of the individual. Yet, it does not involve any a priori energy expenditure since it is the individual's intention to get a good mark and not a measure of actual achievement. Along with the other indices of achievement, behavioral intention to get a good mark will therefore be included as a criterion in the present study.

Methodological changes were made in study IV in contrast with study II. Although the scales used were identical with respect to their name and conceptualization, the assessment methodology changed with respect to two aspects. First, "Behavioral Intention to Re-enroll in English" was changed from a two or three-point scale to a seven-point equal interval scale in order to permit more reliable ratings.

The second methodological variation is related to the measurement of the normative belief terms in the models related to persistence (i.e. equations [6], [9]

and [10]) and competence (i.e. equations [13] [14] and [16]). In Fishbein's early articles (e.g. Fishbein, 1967) the normative belief component of his equation was multiplied by a parameter representing the individual's "motivation to comply" with the normative beliefs. The model was thus represented as follows:

$$B \approx BI = Aact_{w0} + NB(MC)_{w1} \quad [17]$$

where MC corresponds to the "motivation to comply" (MC) parameter and all other terms are defined as previously. The MC component has been abandoned by Fishbein for some time since it added little predictive power to the model (see Ajzen & Fishbein, 1969, p.405, footnote 5). However, in their latest statement of the theory, Fishbein and Ajzen (1975) have reintroduced this term. It therefore appeared necessary, in order to provide an adequate test of the theory, to modify the functions used in study II to include MC.

The models tested with respect to the prediction of persistence, after modification of equations [6], [9] and [10] thus become respectively:

$$BI = Aact + NB(MC) \quad [18]$$

$$BI = Aact + NB(MC) + APT \quad [19]$$

and $BI = Aact + NB(MC) \times APT \quad [20]$

Equations [13], [14] and [16] related to the prediction of competence will be replaced by the following ones which include the motivation to comply variable:

$$C = Aact + NB(MC) + APT \quad [21]$$

$$C = (Aact + NB(MC)) \times APT \quad [22]$$

$$C = (Aact + NB(MC)) \quad [23]$$

In summary, including the definition of motivation as the effort volunteered by the student toward learning English, six models of persistence and six models of competence were compared.

$$1. BI = Aact + NB(MC) \quad [18]$$

$$2. BI = Aact + NB(MC) + APT \quad [19]$$

$$3. BI = Aact + NB(MC) \times APT \quad [20]$$

$$4. BI = MI + APT \quad [7]$$

$$5. BI = MI \times APT \quad [8]$$

$$6. BI = MI \quad [5]$$

With respect to English competence:

1. $C = (Aact + NB(MC))$ [23]
2. $C = (Aact + NB(MC)) + APT$ [21]
3. $C = (Aact + NB(MC)) \times APT$ [22]
4. $C = MI + APT$ [11]
5. $C = MI \times APT$ [12]
6. $C = MI$ [15]

Method

Subjects and Procedure

The data pertinent to study IV were collected from the same subjects and at the same time as for study III.

Materials

The Motivational Intensity (MI), Aptitude (APT), Normative Belief (NB) and Attitude toward the Act (Aact) scales used in the present study were identical to those used in study II. The modified Behavioral Intention to Re-enroll in English scale used in the present study was already described in study III. This study required, however, the addition of three new scales: Behavioral Intention to get good marks on English Exams, Motivation to Comply with the norms related to persistence and Motivation to Comply with the norms related to competence in English. They are as follows:

Behavioral Intention to Get Good Marks. Students rated the statement "I want to obtain good marks on my English exams" on a seven-point scale defined at one end by "définitivement non" (definitely not) and at the other end by "définitivement oui" (definitely yes).

MC - Persistence. Students were asked to rate their willingness to comply with the advice of people they value most regarding their re-enrollment in English. These ratings were made on a seven-point scale defined at one end by "pas du tout" (not at all) and at the other end by "extrêmement" (extremely).

MC - Competence. Students were asked to rate their willingness to comply with the advice of people they value most regarding their getting good marks on English exams. A seven-point scale defined at one end by "pas du tout" (not at all) and at the other end by "extrêmement" (extremely) was used.

Results

Overview of the Analyses

A total of six analyses were performed. The scores obtained on all variables related to the present study were first standardized within the 10 class groups tested in the present study. Six of these groups were from the middle socio-economic area school and four were from the lower socio-economic area school. After standardization, a constant was added to all scores in order to eliminate negative values and predicted scores were computed for every subject by entering the relevant variables into the predictive equations already presented. A correlation coefficient between the predicted score and each of the criteria was computed for each of nine groups of subjects.⁶

Six 2x3 repeated measures analyses of variance were performed involving as factors the Definition of Motivation (attractiveness vs. effort) and the Relationship to Intelligence (motivation alone vs. addition vs. multiplication). The replication factor consisted of the nine groups of students and the dependent measure was the correlation between the predicted score and each of the six criteria. One criterion was the index of persistence, one was the individual's behavioural intention to get a good mark and the four remaining were indices of competence in English: aural comprehension, reading comprehension, grammatical knowledge and the standardized test of English completed two years earlier.

Analysis of Persistence

The analysis of variance of the correlations between predicted and actual behavioral intention to re-enroll in English is summarized in Table 8. As can be seen, two sources produced significant effects. First, a significant main effect ($F=20.12$, $p<.01$) was found for the Relationship to Intelligence factor. The models involving the motivational indices taken alone ($\bar{r} = .45$) were better predictors than the additive models ($\bar{r} = .27$) which were themselves superior to the multiplicative models ($\bar{r} = .23$). A significant interaction was also obtained between this factor and the Definition of Motivation factor ($F=3.62$, $p<.05$). This interaction is depicted in Figure 5.

A posteriori comparisons (Newman-Keuls) of the Relationship to Intelligence factor for the models involving MI indicated that this index of motivation taken alone was a better predictor of the criterion than either the additive ($q=6.57$, $p<.01$) or multiplicative ($q=6.88$, $p<.01$) models, and these two models did not differ significantly from one another ($q=.31$). With respect to the models involving (Aact + NB(MC)), this index of motivation taken alone was a superior predictor of the criterion than the model resulting from its multiplicative combination with intelligence ($q=4.19$, $p<.05$), but not from its additive combination ($q=2.28$). Furthermore, the additive and multiplicative models did not differ significantly ($q=1.92$). This interaction is therefore due mainly to the differential results obtained when combining, additively and multiplicatively, the two indices of motivation with intelligence.

⁶ Those groups correspond to the class groups within which the variables were standardized. One class of female students of the middle socio-economic area school had only fifteen students. This group was therefore combined with another female group from the same school, thus reducing by one the number of groups on which correlations were computed.

TABLE 8
 Analysis of Variance Summary Table
 The Prediction of Persistence

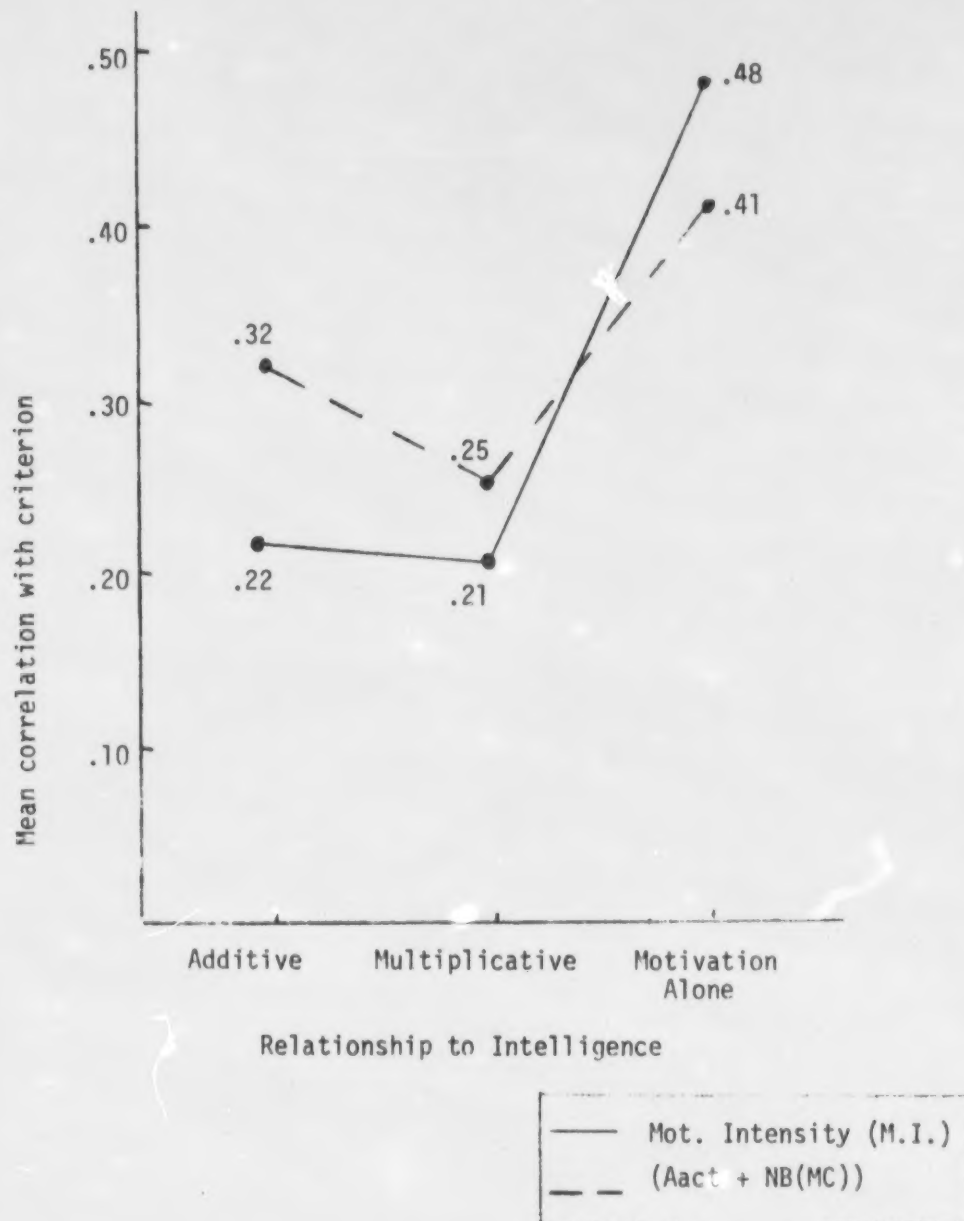
<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.007	1	.007	.11
A x Group (G)	.501	8	.063	
Relationship to Intelligence (B)	.472	2	.236	20.12 ^{**}
B x G	.188	16	.012	
A x B	.065	2	.032	3.62 [*]
A x B x G	.143	16	.009	
G	2.654	8	.332	

* $p < .05$

** $p < .01$

Figure 5

Predicting persistence as a function of Definition of Motivation and Relationship to Intelligence



Analysis of Behavioral Intention to get a Good Mark

The analysis of variance of the correlations of the various models with Behavioral Intention to get a Good Mark is summarized in Table 9. The only significant effect ($F=11.70$, $p<.01$) was related to the Relationship to Intelligence factor. A posteriori pairwise comparisons (Newman-Keuls) revealed that this effect was due to motivation alone ($\bar{r} = .42$) being a better predictor of the criterion than either the additive ($\bar{r}=.36$, $q=2.87$, $p<.05$) or the multiplicative model ($\bar{r}=.32$, $q=4.83$, $p<.01$). These two last models did not differ significantly from one another ($q=1.96$). Although no other significant effects were obtained, it should be noted that when taken alone, motivation defined as effort (MI) tended to be more related to the criterion ($\bar{r} = .47$) than the attractiveness model ($\bar{r} = .37$).

Analysis of Competence

Four analyses were performed, using as dependent variables the correlations between the models and each of four measures of competence in English. The first analysis compared the predictive power of the models with respect to a measure of aural comprehension. The results of this analysis are summarized in Table 10. A significant main effect ($F=7.87$, $p<.01$) was obtained for the Relationship to Intelligence factor. The multiplicative models were generally superior ($\bar{r} = .27$) to the additive models ($\bar{r} = .14$) which were themselves superior to the motivational indices alone ($\bar{r} = .05$). A significant interaction ($F=5.25$, $p<.05$) between this factor and the Definition of Motivation factor was also obtained. This interaction is depicted in Figure 6.

A posteriori pairwise comparisons (Newman-Keuls) on the Relationship to Intelligence factor revealed that, considering the models involving MI, the multiplicative and additive combinations of this index with intelligence produced better prediction ($q=4.45$, and $q=4.50$, $p<.01$, respectively) than this index taken alone while not differing significantly from each other ($q = .05$). With respect to the models involving (Aact + NB(MC)), the multiplicative model was superior to either this motivational index taken alone ($q=3.90$, $p<.01$) or the additive model ($q=4.92$, $p<.01$). These two last models did not differ significantly, however ($q= 1.03$). Overall, examination of the results reveal that the interaction obtained in this analysis was mainly due to the multiplicative model involving (Aact + NB(MC)) being superior to the additive model whereas no difference, existed between the multiplicative and additive models involving MI.

The second analysis involved as the dependent variable the correlation between the models and an index of reading comprehension (see Table 11). A significant main effect was obtained for the Relationship to Intelligence factor ($F=3.76$, $p<.05$). The multiplicative models ($\bar{r} = .20$) were generally superior to the additive models ($\bar{r} = .12$) which were themselves superior to the motivational indices taken alone ($\bar{r} = .03$). A significant interaction between this factor and the Definition of Motivation factor also was significant ($F=4.99$, $p<.05$). This interaction is plotted in Figure 7.

A posteriori comparisons (Newman-Keuls) of the models involving MI indicated that the additive and multiplicative combinations were significantly superior ($q=4.17$, $p<.05$ and $q=4.06$, $p<.01$, respectively) to this motivational index taken alone, while not significantly different from each other ($q = .11$). None of the comparisons of the models involving (Aact + NB(MC)) were significant. The significant interaction therefore appears to be due primarily to the fact that combining MI with intelligence either additively or multiplicatively consistently improves prediction

TABLE 9

Analysis of Variance Summary Table
Predicting Behavioral Intention to Get a Good Mark

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.015	1	.015	.08
A x Group (G)	1.481	8	.185	
Relationship to Intelligence (B)	.092	2	.046	11.70*
B x G	.063	16	.004	
A x B	.035	2	.018	2.59
A x B x G	.110	16	.007	
G	.339	8	.042	

* $p < .01$

TABLE 10
 Analysis of Variance Summary Table
 Predicting Aural Comprehension

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.944	1	.944	4.90
A x Group (G)	1.543	8	.193	
Relationship to Intelligence (B)	.471	2	.236	7.87**
B x G	.479	16	.030	
A x B	.248	2	.124	5.25*
A x B x G	.379	16	.024	
G	1.406	8	.176	

* $p < .05$

** $p < .01$

Figure 6

Predicting aural comprehension as a function of Definition of Motivation and Relationship to Intelligence

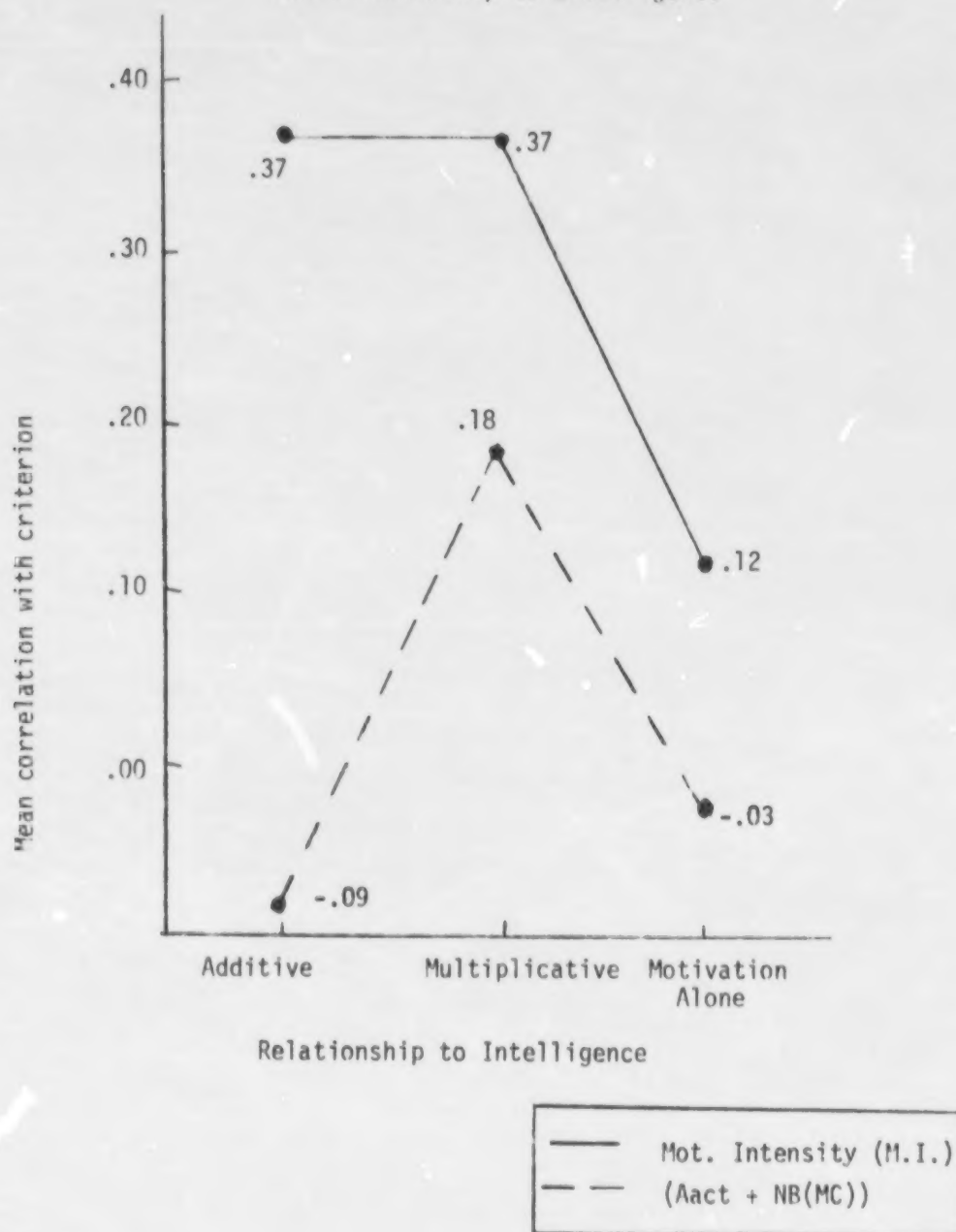


TABLE 11

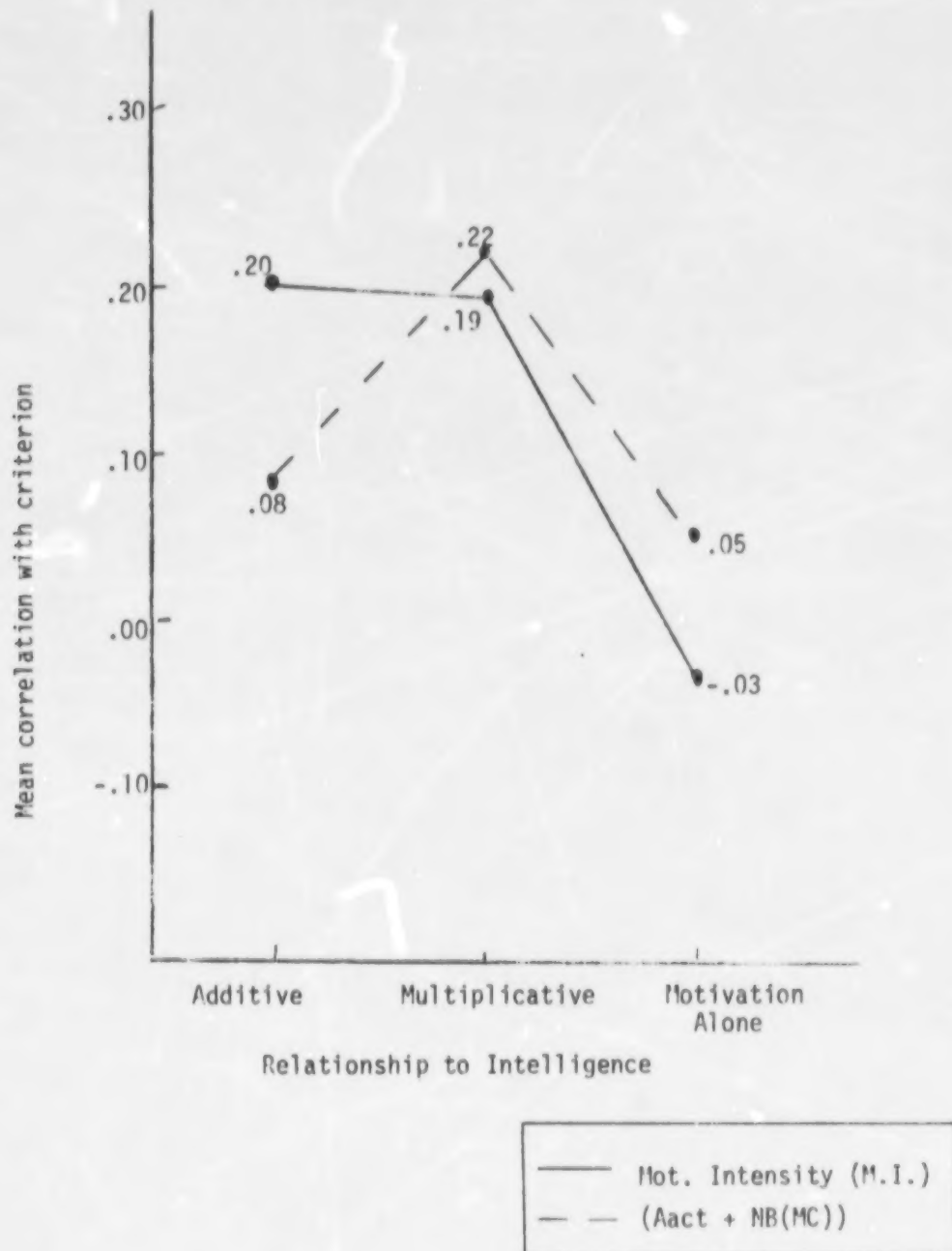
Analysis of Variance Summary Table
Predicting Reading Comprehension

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.000	1	.000	.00
A x Group (G)	.806	8	.101	
Relationship to Intelligence (B)	.285	2	.143	3.76*
B x G	.607	16	.038	
A x B	.157	2	.079	4.99*
A x B x G	.252	16	.016	
G	.445	8	.557	

* $p < .05$

Figure 7

Predicting reading comprehension as a function of Definition of Motivation and Relationship to Intelligence



over MI considered alone, while similar improvements are not obtained for the attractiveness model.

The third analysis of the performance models focused on the correlations between the models and an index of grammatical knowledge. This analysis is summarized in Table 12. Only a main effect associated with the Relationship to Intelligence factor was significant ($F=9.09$, $p<.01$). A posteriori (Newman-Keuls) comparisons revealed that the motivational indices taken alone ($\bar{r} = .17$) were generally inferior to the multiplicative combinations ($\bar{r} = .38$) as predictors of performance ($q=4.24$, $p<.05$). The additive models did not differ significantly either from the multiplicative models ($q = 1.73$) or from the motivational indices taken alone ($q = 2.50$).

Although the interaction was not significant, it is presented in Figure 8 to show its similarity to the other interactions obtained for the other measures of competence. As can be seen, the combination of intelligence with the indices of motivation generally increased the accuracy of prediction. The multiplicative model involving (Aact + NB (MC)) was superior to the additive model whereas this difference was not appreciable for the models involving MI.

The last analysis of the prediction of competence involved as the dependent variable, the correlations between the models and the scores obtained on a standardized index of competence in English. This analysis is summarized in Table 13. A significant ($F=19.98$, $p<.01$) main effect was obtained for the Relationship to Intelligence factor. As for the previous analyses, the multiplicative models ($\bar{r} = .29$) were generally superior to the additive models ($\bar{r} = .19$) which were themselves superior to the motivational indices taken alone ($\bar{r} = .02$). A significant interaction effect was also obtained between the Definition of Motivation and Relationship to Intelligence factors ($F=12.90$, $p<.01$) and is depicted in Figure 9.

A posteriori pairwise comparisons (Newman-Keuls) computed on the Relationship to Intelligence factor revealed that, for the models involving MI, the multiplicative and additive models were both better predictors of the criterion ($q=8.43$ and $q=8.51$, $p<.01$) than this index of motivation taken alone while not significantly different from one another ($q = .08$). With respect to the models involving (Aact + NB(MC)), the multiplicative model was superior to both the index of motivation taken alone ($q=5.97$, $p<.01$) and the additive model ($q=5.57$, $p<.01$). These two last models were not significantly different from one another, however ($q = .41$).

In line with the previous results, this interaction is therefore due to the differential results obtained when combining additively and multiplicatively the two indices of motivation with intelligence. The multiplicative combination of (Aact + NB(MC)) with intelligence was superior to the additive combination whereas the difference was negligible between these two combinations of MI with intelligence.

Discussion

This study was conducted in part to cross-validate some of the results of study II and in part to refine some of the models proposed there. In study II, it was demonstrated that motivation alone was the best predictor of persistence, while a combination of both motivation and intelligence provided the best prediction of competence. The motivational indices involved in predicting persistence and competence were, however, different. Whereas an attractiveness index of motivation was the best predictor of persistence, an index of effort was the best motivational predictor of competence. The results of study II also revealed that

TABLE 12

Analysis of Variance Summary Table
Predicting Grammatical Knowledge

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.406	1	.406	3.06
A x Group (G)	1.060	8	.133	
Relationship to Intelligence (B)	.395	2	.198	9.09*
B x G	.348	16	.022	
A x B	.099	2	.050	1.66
A x B x G	.477	16	.030	
G	2.365	8	.296	

* $p < .01$

Figure 8

Predicting grammatical knowledge as a function of Definition of Motivation
and Relationship to Intelligence

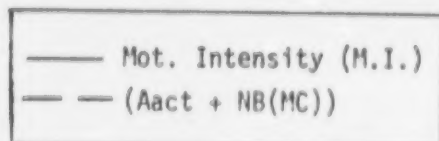
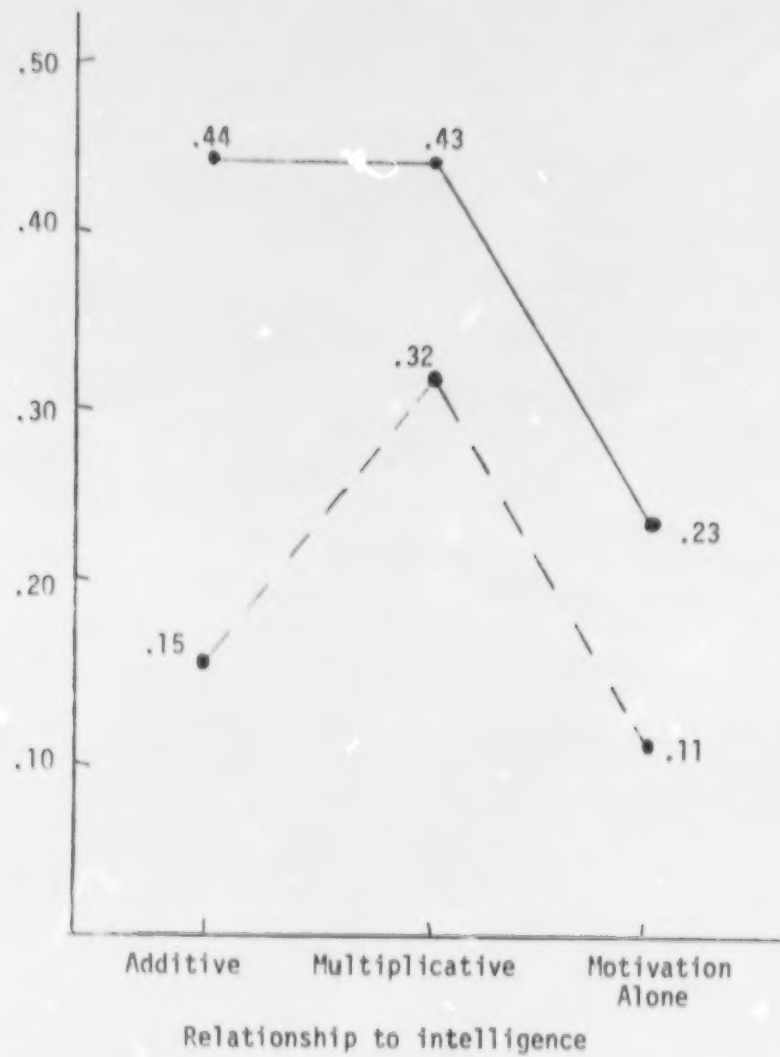


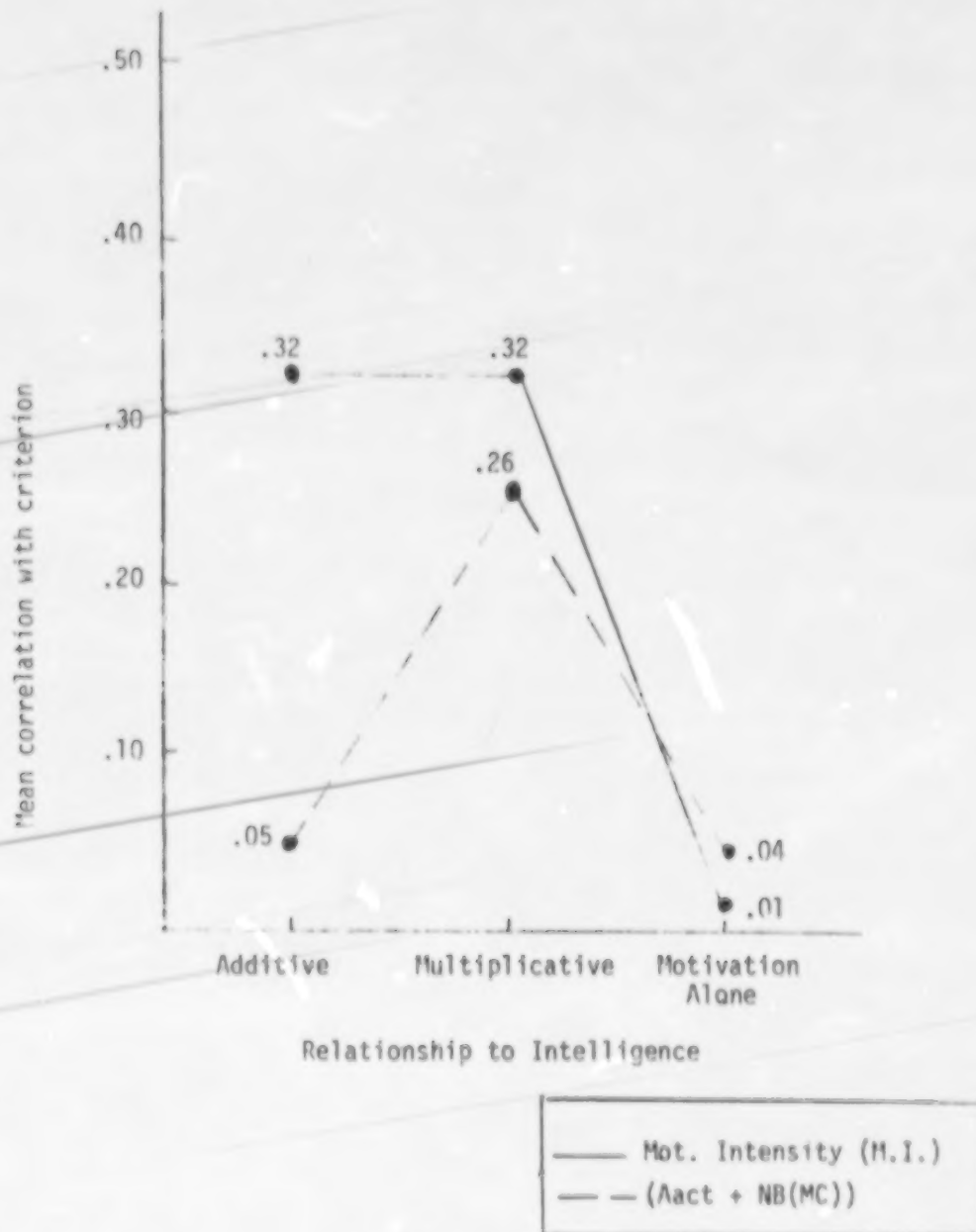
TABLE 13
 Analysis of Variance Summary Table
 Predicting Standardized English Test Score

<u>Source</u>	<u>SS</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Definition of Motivation (A)	.145	1	.145	1.18
A x Group (G)	.981	8	.123	
Relationship to Intelligence (B)	.652	2	.326	19.97*
B x G	.261	16	.016	
A x B	.213	2	.106	12.90*
A x B x G	.132	16	.008	
G	1.183	8	.148	

* $p < .01$

Figure 9

Predicting standardized English test score as a function of Definition of Motivation and Relationship to Intelligence



the multiplicative and additive combinations of intelligence with the attractiveness index of motivation differentially influenced prediction while producing similar results for the models involving the index of effort.

The results obtained in the present study parallel those obtained in study II. With respect to persistence, motivation taken alone was again the best predictor of the criterion. A significant interaction was obtained which was mainly due to the differential effects of the additive and multiplicative combinations of the two motivational indices with intelligence. The multiplicative model involving ($Aact + NB(MC)$) resulted in poorer prediction of criterion than the additive model related to the same motivational index. No such difference was obtained for the models involving MI.

The interpretation proposed for the similar interaction obtained in study II can be restated with respect to the present interaction. Attractiveness towards re-enrolling in the English course implies a positive affective orientation towards increasing one's competence in English. The intelligent individual who is also attracted toward increasing his competence can, however, find a variety of means, other than re-enrolling in English, for achieving the desired end. While intelligence and attractiveness might interact in the choice of a learning strategy, the relationship between their product and re-enrollment in the English course would be expected to be low. The error of estimate of the additive combination would, however, be less pronounced. Even though the difference between the additive and multiplicative models involving ($Aact + NB(MC)$) was not significant in the present case, it can be seen that the pattern of the means replicates that obtained in study II and supports the above interpretation.

Contrasting with the differential results obtained for the multiplicative and additive models involving ($Aact + NB(MC)$) and consistent with the results obtained in study II, no appreciable difference was found between the corresponding models involving effort. Since the effort definition of motivation refers directly to the amount of energy the individual is willing to expend to learn English, it is conceptually independent of intelligence. It follows, therefore, that while its additive and multiplicative combinations with intelligence lowers the predictive power of the resulting models, they do not do so differentially.

This aspect of the interaction thus hinges on the concepts underlying the two approaches to motivation investigated here. Another aspect of the interaction is, however, related to the main purpose of the present study which is the derivation of a predictive model. As can be seen in Figure 5, while ($Aact + NB(MC)$) is a more potent predictor of the criterion when with intelligence, the relationship is reversed when the two motivational indices are taken alone, though the difference is not significant. The advantage of the attractiveness model over the effort model is therefore minimal in the present case but can be taken as support for the predictive model of behavior proposed by Fishbein and Ajzen (1975).

The lower predictive power of the attractiveness index in the present study compared with study II can be explained with reference to the specific formulation used here. The motivation to comply term was included in the formulation of the model used in this study while it was not in study II. It is therefore possible that the lower predictive power of the attractiveness index used here was due to the fact that the normative belief component was minimally related to the criterion. Its multiplication by the motivation to comply term thus inflated appreciably the error of estimate of the model's predicted score such that ($Aact + NB(MC)$) was related less to the criterion in the present study than ($Aact + NB$) in the preceding study. It therefore seems consistent to propose that the absence of a significant difference between the two motivational indices in the present study was due to the inclusion of the motivation to comply term in the formulation of the attractiveness

index.⁷

As for the analysis of the persistence models, the results obtained for the prediction of competence parallel those obtained in study II. It should be noted, however, that the predictive power of the models was generally lower than that observed in study II. This is due to numerous contextual and methodological factors. During the period of testing the Montreal area was affected by many strikes of unionized workers including the school personnel. The testing thus took place amidst much social and political turmoil. Added to this is the fact that the three tests of English proficiency (aural comprehension, reading comprehension and grammatical knowledge) proved to be too easy. The distribution of scores was negatively skewed, thus lowering the predictive accuracy of all models. In addition, one of them (reading comprehension) demonstrated relatively poor internal consistency (see Appendix C).

These factors influenced the general level of predictability of the criteria but had relatively little influence on the pattern of prediction of the various models. One measure of achievement which was also used in study II is the student's score on a standardized English test. The present and previous results are therefore directly comparable. Again the models combining intelligence and motivation were generally superior to those including an index of motivation alone. Furthermore, the interaction obtained on this variable closely parallels that already obtained in study II. The multiplicative model involving the attractiveness index was superior to the additive model whereas both additive and multiplicative models involving the effort index were equally potent predictors.

These differential effects of the two combinations of motivation with intelligence of the two motivational indices can be traced, as in study II, to the concepts underlying the motivational indices. The intelligent individual who is also attracted toward getting good marks is aware of more and more efficient strategies he can use to reach his goal than the less intelligent individual. Intelligence and attractiveness of the goal therefore interact in the determination of achievement. It follows that a multiplicative relationship between intelligence and motivation should produce a predicted score which is more highly correlated with the actual score than that obtained with an additive relationship. This conceptual relationship between intelligence and motivation is not present, however, when motivation is defined in terms of effort. As a result, both additive and multiplicative combinations evidence similar predictive power.

The results related to the prediction of the individual's score on the standardized test of English proficiency are therefore highly similar to those obtained in study II. In both cases, a predictive model involving both intelligence and motivation demonstrated relatively high accuracy, and differential effects were obtained regarding the predictive power of the additive and multiplicative combinations with intelligence of the two motivational indices. These pattern of results were also obtained for the three indices of achievement in English designed specifically for this study. Although the interaction involving grammatical knowledge was not significant, the pattern was identical to those obtained in the other analyses of the competence models.

⁷This interpretation is supported by a re-analysis of these data deleting the motivation to comply term from the attractiveness model. As can be seen in Appendix E, the results of this analysis are identical to those obtained in study II and (Aact + NB) taken alone evidences a stronger relationship to the criterion than Motivational Intensity taken alone.

A major purpose of these analyses was the selection of the best predictive model of competence. The findings indicate that three models are similar in terms of their predictive capacity, viz., the two multiplicative models involving respectively (Aact + NB(MC)) and MI as motivational estimates and the additive combination of MI with intelligence. Following the rule of simplicity, it seems that a model which assumes independent contributions of the predictors. An additive model which would, given the results obtained in the present study, involve an index of effort and an index of intelligence therefore appears to constitute the most adequate formulation of a predictive model. In algebraic terms: $C = MI + APT$.

The models related to the prediction of persistence and competence are then relatively different. One obvious difference is that persistence seems to be a function of motivation alone while competence is a function of both motivation and aptitude. This is not unexpected, however, and is congruent with previous findings and theorizing (Gardner & Lambert, 1972; Gardner & Smythe, 1975) holding that persistence is primarily a function of motivation while achievement in a second language is related to both motivation and aptitude.

A second element differentiating the persistence and competence models in study II was their inclusion of different motivational estimates. In the present study, while the additive model involving MI was a more potent predictor of competence than the corresponding model involving the attractiveness index, such a difference was only marginal for other models. In the case of persistence, the attractiveness index was also only slightly superior to the effort index. In the conclusion to study II it was suggested that when the target behavior involves, a priori, the expenditure of energy, Fishbein and Ajzen's (1973) model might be a less potent predictor of the criterion than a model defining motivation as the effort expended toward a goal. In so far as the above results are concerned then, the conclusion reached in study II is only weakly supported. It should be noted however that this conclusion receives additional support in the present study from the analysis related to the individual's behavioral intention to get a good mark.

The results of this analysis reveal that motivation taken alone was a more accurate predictor of the criterion than when combined with indices of intelligence. This supports the assumption that the criterion was under the volitional control of the individual. In spite of this, the effort index and the attractiveness index tended to be the best predictor of the criterion. This, as well as the slight superiority of MI in the prediction of performance therefore support the conclusion reached in study II. Considering the available evidence it therefore seems appropriate to conclude that even though under the volitional control of the individual, a behavior which involves preparatory energy expenditure is more accurately predicted by an index of effort than by an index of attractiveness. Furthermore, given the general superiority of attractiveness in the prediction of persistence, it seems appropriate to conclude that Fishbein and Ajzen's model might be limited to the prediction of behaviors which do not involve preparatory energy expenditure.

In summary, considering the results obtained in the present study, the three conclusions reached at the end of study II can be reiterated. First, substantiating the predictive and cross-cultural validity of the contentions of second language researchers, (e.g., Gardner & Lambert, 1972; Gardner & Smythe, 1975) persistence was found to be primarily a function of the individual's motivation, and competence was determined by both ability and motivation. In addition, the present results further supported the derivation of a predictive equation of competence undertaken in study II. As a result of the analytic approach employed here, this formula is relatively robust against sample fluctuations and does not require the a posteriori selection of predictors and/or weights which are involved in multiple regression approaches.

With respect to persistence, differential predictive power was not obtained for the two motivational indices taken alone. The attractiveness index was however superior to the effort index when both were combined with intelligence. Although not a confirmation, it seems reasonable to interpret those results as supporting the conclusion reached in study II regarding the superiority of the attractiveness index as a predictor of re-enrollment. It should be noted, however, that a formulation which would delete the motivation to comply term might be more appropriate as evidenced by the contrasting results obtained here and in study II.

Second, in addition to supporting the results of study II regarding the construction of predictive models, the present results also replicated the findings related to the differential effects of the additive and multiplicative combinations of intelligence with the two indices of motivation. These interaction effects obtained in both the competence and persistence models investigated here and in study II are due to the conceptualizations underlying the two indices of motivation. Attractiveness of the goal behavior and intelligence interact in the determination of the behaviors which will be instrumental in achieving the desired end. Effort, however, refers to the actual amount of energy expended towards reaching this desired end. As such, it contributed independently of intelligence to the achievement of the goal behavior. Supporting the formulations put forward by numerous theorists (e.g., Atkinson, 1964; Vroom, 1964) motivation defined as the attractiveness of the goal is better thought of as relating multiplicatively to ability in the determination of performance. An increase in the attractiveness of the goal will have more of an impact on the performance of the intelligent than the less intelligent individual. Effort, however, does not seem to relate best multiplicatively to intelligence. Fundamental differences in the conceptualizations underlying the two motivational indices are responsible for the differential effects of their additive and multiplicative combinations with indices of intelligence.

The third conclusion of study II was related to the different motivational estimates optimizing the predictive power of the persistence and performance models. The reversal was not as dramatic in the present study. The slight superiority of MI in the prediction of competence, of the attractiveness index in the prediction of persistence and the results related to the prediction of the individual's intention to get good marks can however be taken as partial support for the third conclusion reached in study II. The predictive value of Fishbein and Ajzen's model might be limited to the type of situations already documented by these authors--that is, situations where the goal behavior is not conditional upon the preparatory expenditure of energy. When such is the case, however, even though under the volitional control of the individual, an index of effort appears to be the best motivational predictor.

CHAPTER 6

Conclusion

The four studies presented here investigated the descriptive and predictive aspects of concepts presumed to mediate the individual francophone's competence in English and his persistence in acquiring it. The point of departure was the theoretical position elaborated by Gardner and his collaborators on the basis of data collected from anglophone samples (Gardner & Lambert, 1972; Gardner & Smythe, 1975). This formulation essentially holds that the individual's persistence in acquiring a second language is primarily a function of motivation while his competence is a function of both motivation and language aptitude. Furthermore, it has been argued that the primary motivation for the successful acquisition of a second language is an integrative motive. The structure of this motivational complex implies that the individual derives his motivation to learn a second language from his attitude toward the second language speaking group and his willingness to become like valued members of that group.

The results obtained in the present studies support the cross-cultural validity of Gardner's framework with respect to persistence. Francophones' persistence in the acquisition of English is primarily related to their attitude toward the English community and their desire to communicate with members of that group. The results related to their actual competence, however, partly support and partly qualify Gardner's contentions (i.e., Gardner & Smythe, 1975). As support, the individual's competence in English was associated with both aptitude and motivation and motivation was related to the Integrative Motive dimension. The indices of motivation were also found, however, to be related to a motivational dimension involving a lack of anxiety when using English and relatively high self-ratings of proficiency. This dimension was identified as Self-Confidence with English and further strengthening its importance, its relationship to indices of proficiency in English were stronger than that evidenced by the Integrative Motive.

This latter motivational dimension of Self-Confidence with English appeared in all three factor matrices obtained in the present research supporting the conclusion that an additional motivational component is associated with competence in English for francophone students. Such a component has not been explicitly identified in early studies of anglophones learning French (Gardner & Lambert, 1972; Gardner & Smythe, 1975). Comparable results were nevertheless obtained recently for an equivalent group of Montreal anglophones suggesting that this additional motivational dimension does not reflect cross-cultural differences in second language acquisition processes. The Self-Confidence factor was also obtained for a sample of franco-Ontarian students (see Major, 1976).

All groups quoted above have in common the high availability of the second culture and language in their immediate environment. It therefore seems appropriate to attribute the origin of the self-confidence motive to the availability of the second language and culture. To the extent that the individual can interact with members of the other language community, it seems reasonable to hypothesize that a lack of anxiety concerned with the use of this language and positive feelings of proficiency may result.

While the inclusion of this motivational process appears essential to the theoretical position of Gardner and his collaborators, it does not detract from the importance of the integrative motive in second language acquisition. A

revised theoretical formulation would postulate the existence of two causally related motivational processes. One consists of the integrative motive and is mainly related to the individual's attitude toward the second language community. The other, self-confidence with English, originates primarily from the individual's actual experience with the language. It will be noted that in study III both motivational dimensions were related to the individual's self-report of frequency of use of English. Consistent with previous research (i.e., Clément, Gardner & Smythe, 1977), it seems reasonable to hypothesize that an integrative motive will foster a high frequency of contact with members of the other ethnic group. To the extent that contact with the other culture is possible and that individuals actually make use of their second language skills, this contact will in turn influence feelings of self-confidence with the language and increase motivation to improve one's competence. In so far as contact can have positive or negative reinforcing properties, however, self-confidence or lack of self-confidence can result. Hence, the Self-Confidence motivational dimension is best perceived as reflecting a process which would be independent of the integrative motive and which would hinge on qualitative aspects of the contact situation. According to this interpretation, the integrative motive is viewed as an antecedent to the self-confidence motive which might serve to orient the individual to enter into situations where self-confidence would develop, but which might not be directly related to second language competence.

It should be noted that although the model presented here postulates that the integrative motive causally precedes the self-confidence motive, non-recursiveness of the process is not assumed. Positive experiences with members of the other ethnic group, while resulting in a lack of anxiety might also result in a more positive attitude toward that group thus influencing the individual's integrative motivation. Hence, self-confidence might have a recursive influence on the integrative motivation.

According to this model and results, the integrative motive fulfills a basic function in the second language acquisition process. It acts as the primary tendency orienting the individual towards the means of acquiring a second language: persistence in the second language and contact with members of the other group. Furthermore, it is a necessary prerequisite to the development of the individual's self-confidence with the second language.

Past research has well documented the variables supporting the integrative motive--namely the individual's positive attitude towards the other language community and a willingness to become like valued members of this community (Gardner & Smythe, 1976). No research has, however, documented aspects which might be antagonistic to the development of this motive. The results obtained in chapter four suggest that fear of losing one's cultural identity has such an effect. Within the model presented here, the integrative motive and the consequent processes might therefore not develop if second language acquisition implies for the individual the loss of his first language and culture.

The predictive equations of persistence and competence derived in the present studies closely parallel the theorizing proposed above. It will be recalled that the present research investigated the predictive power of two indices of motivation. One referred to the attractiveness of the goal object and was operationally defined in terms of Fishbein and Ajzen's (1975) model of the prediction of behavior. The other referred to the effort the individual actually expends in learning the second language. With respect to competence, optimal prediction involved both motivation and aptitude terms. Furthermore, the effort index which was related to both Integrative Motive and Self-Confidence dimensions of studies I and III, was the motivational index evidencing the highest relationship to competence in studies II and IV.

With respect to persistence, motivation alone produced the best prediction of the criterion. In study IV, no appreciable difference was found between the two motivational indices taken by themselves. The explanation suggested for the decrease in predictive power of the attractiveness index together with its clear superiority over the effort index in study II can, however, be taken as support for the predictive validity of the formulation of Fishbein's model used in study II. The individual's persistence in the English course is best predicted by an additive function of his attitude toward the act of persisting in second language study and the normative beliefs related to this act. As was the case for the predictive models of competence, it can be seen in study III that these terms are uniquely related to the Integrative Motive. The predictive equation of persistence, therefore supports Gardner and Smythe's (1975) contention that re-enrollment in the second language course was primarily a function of the individual's integrative motivation.

The results obtained with respect to the issue of prediction are consistent with those obtained in the factor analyses. In addition to the derivation of predictive models, the results reported here supported two supplementary conclusions related respectively to the scope of applicability of Fishbein and Ajzen's model and the type of relationship optimizing the predictive power of the models involving both motivation and aptitude. The results obtained here suggest that Fishbein and Ajzen's (1975) model might evidence optimum prediction when the performance of the criterion behavior is not conditional upon the performance of preparatory activities. When such is the case, as in achieving a high mark in English, an index of effort which directly refers to these preparatory activities appears to be the best motivational predictor.

In relation to the optimal relationship between motivation and aptitude in the prediction of competence, the results obtained here suggest that it is at least in part a function of the specific index of motivation employed. When motivation is defined in terms of the attractiveness of the goal, a multiplicative relationship seems most predictive of the criterion. When motivation is defined in terms of the effort expended toward reaching a goal, it is best conceived as contributing to performance independently from aptitude. An additive relationship therefore appears to be most appropriate.

This last conclusion has implications for the outcome of incentive programs aimed at increasing second language competence through contact with the second language community (e.g., immersion programs, exchange programs, bi-cultural excursions). Given that the attractiveness of achieving good marks in English is related to the individual's attitudes toward the second language community (see Table 7), an increase in favourable attitudes toward that community would affect achievement as a function of the aptitude of the individual. This follows from the fact that motivation defined as attractiveness interacts multiplicatively with aptitude in determining competence. The effects of an increase in favourable attitudes resulting from inter-ethnic contact programs should therefore not be expected to have a direct impact on the individual's competence in the second language. Rather, given equivalent changes in participants' attitude toward the other community, the more intelligent individual should evidence a greater subsequent increase in competence than the less able individual.

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APPENDIX A

Instructions to Subjects, Reliability Coefficients
and Items of Scales Used in Study I

Appendix A

Kuder-Richardson/20 Reliability Coefficient

	Grade 10	Grade 11
Need Achievement	.69	.55
Ethnocentrism	.65	.51
English Class Anxiety	.82	.86
Attitudes toward English Canadians	.88	.89
Interest in Foreign Languages	.86	.80
Degree of Integrativeness	.79	.75
Degree of Instrumentality	.45	.32
Parental Encouragement to Learn English	.90	.68
Attitudes toward Learning English	.89	.89
Attitudes toward Americans	.89	.91
Anomie	.62	.59
Attitude toward Bilingualism	.60	.66
English Use Anxiety	.60	.68
English Canadians - Evaluative	.90	.90
Myself - Evaluative	.86	.84
English Teacher - Evaluative	.86	.91
Americans - Evaluative	.90	.83
French Canadians - Evaluative	.90	.90
English Course - Evaluative	.93	.95
Motivational Intensity	.78	.76
Desire to Learn English	.81	.78

General Instructions

Ce questionnaire fait partie d'un vaste projet du Groupe de Recherche linguistique, traitant de l'apprentissage de l'anglais au Canada. Vos réponses à chacune des questions demeureront strictement confidentielles. Bien que nous vous demandions d'inscrire votre nom sur la page couverture, nous le faisons simplement pour être en mesure d'associer ce questionnaire avec d'autres auxquels vous aurez à répondre plus tard. Il est toutefois important pour vous de savoir qu'avant d'être examinés, les questionnaires seront numérotés. Ce numéro sera inscrit sur la section incluant votre nom, puis cette section sera détachée. En suivant la même procédure avec tous les questionnaires, nous pourrions les regrouper d'après les numéros, évitant ainsi d'associer directement votre nom au questionnaire.

Afin que ce sondage soit significatif, il est important que vos réponses soient aussi précises et aussi franches que possible. Vous êtes libre de refuser de répondre à certaines questions ou même au questionnaire entier. Cependant vous devez réaliser que la valeur de l'ensemble de vos réponses sera diminuée dans la mesure où vous ne répondrez pas à toutes les questions. Nous insistons donc pour que vous répondiez à toutes les questions, à moins qu'il ne vous soit personnellement important de vous abstenir. Si vous éprouvez certaines difficultés ou avez des questions à poser sur une des questions, levez la main et quelqu'un vous viendra en aide.

Instructions for Likert Scales

Dans les pages qui suivent vous trouverez un certain nombre d'affirmations avec lesquelles certaines personnes sont d'accord, et d'autres non. Il n'y a pas de réponse bonne ou mauvaise, étant donné que chacun a le droit d'avoir des opinions personnelles. Pour chacune des affirmations, encerclez la réponse qui correspond le mieux à votre opinion.

Voici un exemple. Lisez la proposition ci-dessus et encerclez la réponse qui décrit le mieux votre opinion.

1. Bobby Orr est le meilleur joueur que la Ligue Nationale de Hockey ait jamais eu.

J'approuve fortement	J'approuve légèrement	J'approuve très légèrement	Je n'ai pas d'opinion	Je désapprouve très légèrement	Je désapprouve légèrement	Je désapprouve tout à fait
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Pour répondre à cette question, vous devez encercler une des réponses proposées. Certaines personnes encercleraient "Je désapprouve tout à fait", d'autres encercleraient "J'approuve fortement", d'autres personnes encore auront encerclé une des réponses comprises entre les deux. Le choix que vous avez fait indique votre opinion, basée sur tout ce que vous savez et sur ce que vous avez entendu dire. Notez qu'il n'y a pas de réponse bonne ou mauvaise; tout ce qui est important, c'est que vous donniez votre opinion personnelle.

Pour chacune des affirmations des pages suivantes, nous voulons que vous donniez votre première réaction. Ne perdez pas de temps à réfléchir sur chacune des affirmations. Lisez chaque affirmation et indiquez votre première impression immédiatement. D'autre part, soyez honnête, car il est important que nous ayons votre opinion véritable.

Likert Scales

Need Achievement

1. Je fais rarement plus que le nécessaire dans mon travail.
2. J'essaie de faire les choses à la perfection, même lorsque les gens ne voient pas ce que je fais.
3. J'aime le travail difficile.
4. Je suis certain que les gens me considèrent rarement comme un travailleur laborieux.
5. Je déteste faire un travail qui ne m'intéresse qu'à moitié.
6. Si j'avais le choix, j'aimerais mieux faire un travail très difficile.
7. Je ne m'accroche pas à des buts qui sont difficiles à atteindre pour moi.
8. Je ne suis pas réellement certain de ce que je veux faire ou de ce que je dois faire pour y arriver.
9. Je me fixe rarement des buts difficiles à atteindre.
10. Les nombreuses heures supplémentaires qu'exige un travail parfait n'en valent pas la peine.

Ethnocentrism

1. La meilleure place pour un étranger c'est chez lui.
2. Si on ne fait pas attention, quelqu'un d'autre nous ridiculisera.
3. Durant les cinquante dernières années, le pire danger pour la solidarité nord-américaine, provenait d'idées et d'agitateurs politiques étrangers.
4. Les gens qui ne croient pas que nous avons la meilleure forme de gouvernement au monde, devraient être forcés de quitter le pays.
5. Seuls les gens qui me ressemblent ont le droit d'être heureux.
6. C'est simplement naturel et bien que chaque personne pense que sa famille est meilleure que toutes les autres.
7. Les professeurs devraient diriger les enfants sans chercher à savoir ce que les enfants veulent.
8. Sois juste avec tes amis et laisse les autres se débrouiller seuls.
9. Si tout changeait, ce monde serait beaucoup meilleur.
10. Il n'y a qu'une seule façon de bien faire les choses.

English Class Anxiety

1. Je ne me sens jamais tout à fait sûr(e) de moi lorsque je parle durant le cours d'anglais.
2. Au cours d'anglais, ça m'embarrasse de lever la main pour répondre.
3. J'ai peur que les autres étudiants se moquent de moi lorsque je parle anglais.
4. Je deviens nerveux(se) et confus(e) lorsque je parle au cours d'anglais.
5. J'ai toujours l'impression que les autres étudiants parlent mieux l'anglais que moi.

Attitudes toward English Canadians

1. L'héritage culturel des Canadiens anglais est une partie importante et précieuse de notre identité québécoise.

2. Le dévouement dont les Canadiens anglais font preuve pour le développement et l'amélioration du Québec devrait être apprécié par tous les Canadiens français.
3. J'aime les Canadiens anglais.
4. J'aimerais connaître plus de Canadiens anglais.
5. Les anglophones sont sociables et sympathiques.
6. Les Canadiens anglais constituent un élément stable et "fiable" de la population du Québec.
7. La plupart des Canadiens anglais sont tellement amicaux et conciliants que le Québec est chanceux de les avoir comme citoyens.
8. Les députés canadiens anglais sont parmi les meilleurs hommes politiques du Québec.
9. Plus je connais les Canadiens anglais, plus je voudrais parler leur langue couramment.
10. Ce serait une grande perte si le Québec perdait la culture anglaise.

Interest in Foreign Languages

1. Je souhaiterais pouvoir parler une autre langue à la perfection.
2. Apprendre une langue étrangère est une expérience agréable.
3. J'aimerais vraiment apprendre plusieurs langues étrangères.
4. Je veux lire les oeuvres littéraires étrangères dans leur version originale.
5. J'aime rencontrer et écouter des personnes qui parlent d'autres langues.
6. J'aimerais souvent pouvoir lire des journaux et des oeuvres écrites dans une autre langue.
7. Si je devais habiter un autre pays, je ferais de mon mieux pour apprendre la langue du pays, même si je pouvais me faire comprendre en français.
8. Si je devais visiter un pays étranger, j'aimerais être capable de parler la langue qu'on parle dans ce pays.
9. Même si le Canada est relativement éloigné des pays où l'on parle d'autres langues il est important pour les Canadiens d'apprendre des langues étrangères.
10. J'étudierais une langue étrangère à l'école, même si ce n'était pas obligatoire.

Degree of Integrativeness

1. Apprendre l'anglais peut être important pour moi parce que cela me permettra de mieux comprendre et d'apprécier l'art et la littérature anglaise.
2. Il est important pour moi d'apprendre l'anglais, car cela me permettra d'être plus à l'aise avec d'autres citoyens canadiens parlant anglais.
3. Il est important pour moi d'apprendre l'anglais, car cela me permettra de rencontrer et de converser avec un plus grand nombre et une plus grande variété de gens.
4. Apprendre l'anglais est important pour moi parce qu'ainsi je pourrai participer plus librement aux activités d'autres groupes culturels.

Degree of Instrumentality

1. C'est uniquement parce que j'aurai besoin de l'anglais dans mon futur travail que je considère important de l'apprendre.
2. Il est important pour moi d'apprendre l'anglais, car je pense que cela pourrait m'être utile un jour pour trouver un bon emploi.

3. L'étude de l'anglais peut être importante pour moi, car je deviendrai une personne mieux informée.
4. Il peut être important pour moi d'apprendre l'anglais parce que les gens me respecteront davantage si je connais une langue étrangère.

Parental Encouragement

1. Mes parents m'encouragent à pratiquer mon anglais le plus possible.
2. Mes parents insistent sur l'importance qu'aura l'anglais lorsque j'aurai fini mes études.
3. Mes parents pensent que je devrais vraiment essayer d'apprendre l'anglais.
4. Mes parents montrent un grand intérêt pour tout ce qui se rapporte à mes cours d'anglais.
5. Mes parents m'incitent à demander l'aide de mon professeur lorsque j'ai des problèmes en anglais.
6. Mes parents pensent que je devrais consacrer plus de temps à étudier l'anglais.
7. Mes parents pensent que parce que nous vivons au Canada, je devrais apprendre l'anglais.
8. Mes parents pensent que je devrais étudier l'anglais pendant toute la durée de mes études.
9. Mes parents m'encouragent réellement à apprendre l'anglais.
10. Mes parents essaient de m'aider en anglais.

Attitudes toward Learning English

1. J'aimerais mieux consacrer mon temps à des sujets autres que l'anglais.
2. Je déteste l'anglais.
3. C'est réellement fascinant d'apprendre l'anglais.
4. L'anglais est une partie importante du programme scolaire.
5. J'aime apprendre l'anglais.
6. Je pense que c'est ennuyant d'apprendre l'anglais.
7. Quand je quitterai l'école, j'abandonnerai complètement l'étude de l'anglais, parce que ça ne m'intéresse pas.
8. J'ai l'intention d'apprendre l'anglais le mieux possible.
9. C'est une perte de temps que d'apprendre l'anglais.
10. Je trouve réellement agréable d'apprendre l'anglais.

Attitudes toward Americans

1. J'aimerais mieux connaître le peuple américain.
2. J'ai une attitude favorable envers les Américains.
3. Plus j'apprends à connaître les Américains, plus je les aime.
4. Les Américains sont gais, agréables et joviaux.
5. Les Américains sont très amicaux et hospitaliers.
6. Les Américains sont dignes de confiance et "fiables".
7. La plupart des Américains sont sincères et honnêtes.
8. Les Américains respectent les sentiments des autres.
9. Les Américains sont un peuple très généreux et gentil.
10. J'ai toujours admiré les Américains.

Anomie

1. Au Québec, le succès dépend des gens que l'on connaît et non pas des choses que l'on sait.
2. De nos jours, on ne sait vraiment pas à qui l'on peut se fier.
3. Au Canada, de nos jours, les autorités publiques ne sont pas très intéressées aux problèmes de l'homme moyen.
4. Il est plus difficile de former des liens d'amitié intime dans les communautés où l'on parle français que dans les autres communautés.
5. Etant donné que j'ai vécu aussi longtemps dans une communauté de langue française, je serais heureux d'habiter un endroit où l'on parle d'autres langues.
6. C'est pratiquement injuste de mettre des enfants au monde si l'on pense à ce que sera l'avenir.
7. On ne peut espérer que la vie soit satisfaisante et intéressante dans une communauté où l'on parle seulement une langue.
8. Je suis sûr(e) qu'il y a beaucoup plus de possibilités de réussir à l'extérieur du Québec.
9. Dans l'état où sont les choses, c'est très difficile pour un étudiant de faire des projets pour sa future profession.
10. En dépit de ce que disent certaines personnes, le sort de l'homme moyen ne s'améliore pas, il se détériore.

Attitudes toward Bilingualism

1. Seules les personnes ayant un talent spécial pour les langues, devraient être encouragées à devenir bilingues.
2. Une politique linguistique encourageant le bilinguisme aidera à promouvoir l'unité et la force nationale.
3. Le fait de connaître une langue seconde a très peu de valeur pour la plupart des gens.
4. Les nations européennes ont clairement démontré que le bilinguisme est un but valable.
5. Apprendre une langue seconde ouvre l'esprit.
6. Le fait d'apprendre une langue seconde améliore la créativité en profitant des idées d'une culture différente.
7. Le bilinguisme nuit au rendement intellectuel d'un individu lorsqu'il utilise sa propre langue.
8. Un des dangers possibles du bilinguisme est que les deux langues soient apprises mais qu'aucune ne soit maîtrisée.
9. Tout le monde devrait apprendre une langue seconde.
10. Le risque du bilinguisme c'est de perdre son identité culturelle.

English Use Anxiety

1. Je me sens confiant(e) et détendu(e) quand je dois demander ma route en anglais.
2. Je me sens mal à l'aise toutes les fois que je parle anglais.
3. Je me sens calme et sûr(e) de moi quand je dois commander un repas en anglais dans un restaurant.
4. Lorsque je place un appel téléphonique, je m'embrouille s'il est nécessaire de parler anglais.
5. Chaque fois que je rencontre une personne de langue anglaise et que je lui parle, je suis détendu(e).

6. Je deviens nerveux(se) chaque fois que je dois m'adresser en anglais à un vendeur.
7. Je me sens à l'aise lorsque je parle anglais dans une réunion d'amis où il y a des gens qui parlent anglais et des gens qui parlent français.
8. Parler anglais avec un supérieur me gêne beaucoup.

Instructions for Semantic Differential Scales

Le but de cette partie du questionnaire est de déterminer vos idées et vos impressions sur un certain nombre de choses telles que votre cours d'anglais, les Canadiens anglais, les Américains et autres. Nous appelons ces choses, des concepts. En répondant à cette section, vous aurez à évaluer un certain nombre de ces concepts en utilisant des échelles. Au haut de chacune des pages qui suivent, vous lirez un de ces concepts et vous trouverez un certain nombre d'échelles. Vous devez évaluer, dans l'ordre, chaque concept à l'aide de ces échelles. Voici des instructions sur la façon d'utiliser les échelles.

Si le mot situé à l'une ou l'autre des extrémités de l'échelle décrit très fortement vos idées et impressions sur le concept inscrit en haut de la page, vous devez placer un X comme suit.

amical X : : : : : : : hostile

amical : : : : : X hostile

Si le mot situé à l'une ou l'autre des extrémités de l'échelle décrit vos idées et impressions sur le concept (mais pas d'une façon aussi prononcée) vous devez placer un X, comme suit.

dangereux _____ : X : _____ : _____ : _____ : _____ : _____ sûr
OU

dangereux : : : : X : sûr

Si le mot situé à l'une ou l'autre des extrémités de l'échelle décrit légèrement vos idées et impressions sur le concept, vous devez placer votre X comme suit.

rapide _____ : _____ : X : _____ : _____ : _____ : _____ lent
OU

rapide : : : : X : : lent

Si le mot situé à l'une ou l'autre des extrémités de l'échelle n'a aucun rapport avec vos idées et impressions sur le concept, vous devez placer votre X comme démontré ci-dessous.

utile : : X : : inutile

Si vous deviez évaluer le concept serpent par exemple, votre évaluation pourrait ressembler à ce qui suit:

SERPENT

amical	_____ : _____ : _____ : _____ : <u>X</u> : _____ : _____	hostile
dangereux	<u>X</u> : _____ : _____ : _____ : _____ : _____ : _____	sûr
rapide	_____ : _____ : _____ : _____ : _____ : <u>X</u> : _____	lent
utile	_____ : _____ : _____ : <u>X</u> : _____ : _____ : _____	inutile

Dans cet exemple, on perçoit le serpent comme quelque peu hostile, extrêmement dangereux, relativement lent, ni utile, ni inutile. Il n'y a pas de bonne ou de mauvaise réponse. Nous voulons que vous indiquiez vos propres idées et impressions. Si vous avez des questions, n'hésitez pas à les formuler. En répondant à cette partie du questionnaire, allez rapidement, sans vous arrêter pour penser à chacune des échelles. Nous sommes intéressés à connaître votre impression spontanée.

CANADIENS ANGLAIS

paresseux	_____	laborieux	
bons	_____	mauvais	E
religieux	_____	non religieux	
calmes	_____	excitables	
hostiles	_____	amicaux	E
disciples	_____	chefs	
dignes de confiance	_____	indignes de confiance	E
attentionnés	_____	sans égards	E
sincères	_____	insincères	E
fiers	_____	humbles	
aimables	_____	détestables	
ambitieux	_____	amorphes	
impolis	_____	polis	E
patients	_____	impatients	
dignes de foi	_____	indignes de foi	E
modernes	_____	traditionnels	
malhonnêtes	_____	honnêtes	E
sensibles	_____	insensibles	
plaisants	_____	déplaisants	E
colorés	_____	ternes	
portés vers les arts	_____	indifférents aux arts	
actifs	_____	passifs	
cruels	_____	doux	E
bavards	_____	silencieux	
athlètes	_____	non athlètes	

NOTE: The items marked "E" constitute the evaluative scale.

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MOI-MEME

porté vers les arts	__ : __ : __ : __ : __ : __ : __	indifférent aux arts	
passif	__ : __ : __ : __ : __ : __ : __	actif	
amical	__ : __ : __ : __ : __ : __ : __	hostile	E
aimable	__ : __ : __ : __ : __ : __ : __	détestable	
digne de confiance	__ : __ : __ : __ : __ : __ : __	indigne de confiance	E
disciple	__ : __ : __ : __ : __ : __ : __	chef	
déplaisant	__ : __ : __ : __ : __ : __ : __	plaisant	E
coloré	__ : __ : __ : __ : __ : __ : __	terne	
digne de foi	__ : __ : __ : __ : __ : __ : __	indigne de foi	E
bavard	__ : __ : __ : __ : __ : __ : __	silencieux	
attentionné	__ : __ : __ : __ : __ : __ : __	sans égards	E
non religieux	__ : __ : __ : __ : __ : __ : __	religieux	
mauvais	__ : __ : __ : __ : __ : __ : __	bon	E
ambitieux	__ : __ : __ : __ : __ : __ : __	amorphe	
cruel	__ : __ : __ : __ : __ : __ : __	doux	E
patient	__ : __ : __ : __ : __ : __ : __	impatient	
calme	__ : __ : __ : __ : __ : __ : __	excitable	
sincère	__ : __ : __ : __ : __ : __ : __	insincère	E
fier	__ : __ : __ : __ : __ : __ : __	humble	
athlète	__ : __ : __ : __ : __ : __ : __	non-athlète	
honnête	__ : __ : __ : __ : __ : __ : __	malhonnête	E
sensible	__ : __ : __ : __ : __ : __ : __	insensible	
moderne	__ : __ : __ : __ : __ : __ : __	traditionnel	
impoli	__ : __ : __ : __ : __ : __ : __	poli	E
laborieux	__ : __ : __ : __ : __ : __ : __	paresseux	

NOTE: E = EVALUATION

MON PROFESSEUR D'ANGLAIS

amical	_____	hostile	E
désorganisé	_____	organisé	
ennuyeux	_____	excitant	
indigne de confiance	_____	digne de confiance	E
fascinant	_____	fastidieux	
sans égards	_____	attentionné	E
intelligent	_____	inintelligent	
suspçonneux	_____	confiant	
mauvais	_____	bon	E
peu imagiatif	_____	imaginatif	
patient	_____	impatient	
plaisant	_____	déplaisant	E
laborieux	_____	non laborieux	
efficace	_____	inefficace	E
coloré	_____	terne	
impoli	_____	poli	E
capable	_____	incapable	
sensible	_____	insensible	
sincère	_____	insincère	E
digne de foi	_____	indigne de foi	E
intéressant	_____	ennuyant	
triste	_____	gai	E
intéressé	_____	désintéressé	
incompétent	_____	compétent	
inabordable	_____	abordable	

NOTE: E = EVALUATION

AMERICAINS

doux	_: _: _: _: _: _: _:	cruels	E
calmes	_: _: _: _: _: _: _:	excitables	
mauvais	_: _: _: _: _: _: _:	bons	E
modernes	_: _: _: _: _: _: _:	traditionnels	
amicaux	_: _: _: _: _: _: _:	hostiles	E
ternes	_: _: _: _: _: _: _:	colorés	
portés vers les arts	_: _: _: _: _: _: _:	indifférents aux arts	
dignes de confiance	_: _: _: _: _: _: _:	indignes de confiance	E
patients	_: _: _: _: _: _: _:	impatients	
passifs	_: _: _: _: _: _: _:	actifs	
insincères	_: _: _: _: _: _: _:	sincères	E
fiers	_: _: _: _: _: _: _:	humbles	
impolis	_: _: _: _: _: _: _:	polis	E
aimables	_: _: _: _: _: _: _:	détestables	
dignes de foi	_: _: _: _: _: _: _:	indignes de foi	E
amorphes	_: _: _: _: _: _: _:	ambitieux	
religieux	_: _: _: _: _: _: _:	non religieux	
sensibles	_: _: _: _: _: _: _:	insensibles	
athlètes	_: _: _: _: _: _: _:	non athlètes	
silencieux	_: _: _: _: _: _: _:	bavards	
plaisants	_: _: _: _: _: _: _:	déplaisants	E
laborieux	_: _: _: _: _: _: _:	paresseux	
chefs	_: _: _: _: _: _: _:	disciples	
malhonnêtes	_: _: _: _: _: _: _:	honnêtes	E
attentionnés	_: _: _: _: _: _: _:	sans égards	E

NOTE: E = EVALUATION

CANADIENS FRANCAIS

patients	_____	impatients	
colorés	_____	ternes	
ambitieux	_____	amorphes	
malhonnêtes	_____	honnêtes	E
insensibles	_____	sensibles	
calmes	_____	excitables	
religieux	_____	non religieux	
sincères	_____	insincères	E
traditionnels	_____	modernes	
indignes de confiance	_____	dignes de confiance	E
disciples	_____	chefs	
dignes de foi	_____	indignes de foi	E
polis	_____	impolis	E
athlètes	_____	non athlètes	
détestables	_____	aimables	
mauvais	_____	bons	E
paresseux	_____	laborieux	
hostiles	_____	amicaux	E
passifs	_____	actifs	
plaisants	_____	déplaisants	E
bavards	_____	silencieux	
portés vers les arts	_____	indifférents aux arts	
doux	_____	cruels	E
fiers	_____	humbles	
sans égards	_____	attentionnés	E

NOTE: E = EVALUATION

MON COURS D'ANGLAIS

coloré	: : : : : :	terne	
déplaisant	: : : : : :	plaisant	E
positif	: : : : : :	négatif	E
mauvais	: : : : : :	bon	E
compliqué	: : : : : :	simple	
utile	: : : : : :	inutile	
fascinant	: : : : : :	fastidieux	
agréable	: : : : : :	désagréable	E
élémentaire	: : : : : :	complexe	
ennuyant	: : : : : :	intéressant	
insatisfaisant	: : : : : :	satisfaisant	E
bien	: : : : : :	affreux	E
facile	: : : : : :	difficile	
absorbant	: : : : : :	monotone	
savoureux	: : : : : :	fade	E
non-éducatif	: : : : : :	éducatif	
confus	: : : : : :	clair	
sans valeur	: : : : : :	précieux	E
significatif	: : : : : :	insignifiant	
ardu	: : : : : :	aisé	
endormant	: : : : : :	excitant	
progressif	: : : : : :	régressif	E
banal	: : : : : :	important	
repoussant	: : : : : :	attirant	E
nécessaire	: : : : : :	superflu	

NOTE: E = EVALUATION

Instructions for Multiple Choice Scales

S'il vous plaît, répondre à chacune des affirmations suivantes en encerclant la lettre correspondant à la réponse qui vous décrit le mieux. Nous tenons à vous rappeler qu'aucun de vos professeurs n'aura accès à ce questionnaire ni à toute autre information qui associerait ce questionnaire à votre nom.

Etant donné que le succès de cette recherche dépend de votre franchise, nous insistons pour que vous répondiez le plus spontanément possible.

<u>Motivational Intensity</u>	<u>Weight</u>
1. Je pense à ce que j'ai appris au cours d'anglais...	
a) pratiquement jamais.	1
b) de temps à autre.	2
c) très fréquemment.	3
2. Lorsque j'ai de la difficulté à comprendre quelque chose enseignée au cours d'anglais,...	
a) je n'en fais pas de cas.	1
b) je demande immédiatement l'aide du professeur.	3
c) je demande de l'aide avant l'examen.	2
3. Lorsque je reçois mes devoirs corrigés,...	
a) je les mets dans mon pupitre et je les oublie.	1
b) je les recopie en corrigeant les fautes.	3
c) je les relis sans me préoccuper de corriger les fautes.	2
4. Lorsque j'entends une chanson anglaise à la radio,...	
a) je change de poste.	1
b) j'écoute la musique en faisant attention aux mots qui sont les plus faciles.	2
c) j'écoute attentivement en essayant de comprendre tous les mots.	3
5. Lorsque je suis au cours d'anglais,...	
a) je ne parle jamais.	1
b) je réponds seulement aux questions faciles.	2
c) je lève la main pour répondre le plus souvent possible.	3
6. Si mon professeur demandait à quelqu'un de faire un devoir supplémentaire en anglais,...	
a) je ne serais sûrement pas volontaire.	1
b) j'accepterais seulement si le professeur me le demandait directement.	2
c) j'accepterais sûrement.	3
7. En considérant la façon dont j'apprends l'anglais, je peux dire honnêtement que..	
a) si je réussis, ce sera par chance ou parce que je suis intelligent(e), car je travaille très peu.	1
b) j'essaie vraiment d'apprendre l'anglais.	3
c) je fais juste assez de travail pour réussir.	2

- | | |
|--|---|
| 8. J'écoute la télévision en anglais... | |
| a) jamais. | 1 |
| b) le plus souvent possible. | 3 |
| c) occasionnellement. | 2 |
| 9. Si l'anglais n'était pas enseigné à l'école,... | |
| a) je ne me préoccuperais pas du tout d'apprendre l'anglais. | 1 |
| b) j'essaierais de prendre des cours d'anglais ailleurs. | 3 |
| c) j'essaierais d'apprendre l'anglais dans la vie de tous les jours (lire des journaux et des livres anglais, essayer de le parler chaque fois que c'est possible, etc.) | 2 |
| 10. Lorsqu'il s'agit des devoirs d'anglais,... | |
| a) je m'en débarrasse. | 1 |
| b) je fais un effort mais pas autant que je pourrais. | 2 |
| c) je travaille très attentivement pour être certain(e) de tout comprendre. | 3 |

Desire to Learn English

- | | |
|--|---|
| 1. S'il y avait des familles de langue anglaise dans mon entourage,... | |
| a) je leur parlerais anglais aussi souvent que possible. | 3 |
| b) je leur parlerais anglais de temps à autre. | 2 |
| c) je ne leur parlerais jamais en anglais. | 1 |
| 2. En comparant mon cours d'anglais avec les autres cours, c'est celui que j'aime... | |
| a) le plus. | 3 |
| b) le moins. | 1 |
| c) comme tous les autres. | 2 |
| 3. Si j'avais l'occasion de voir une pièce en anglais,... | |
| a) j'y assisterais sûrement. | 3 |
| b) j'y assisterais si je n'avais rien d'autre à faire. | 2 |
| c) je n'y assisterais pas. | 1 |
| 4. Je pense qu'étudier l'anglais est... | |
| a) très intéressant. | 3 |
| b) n'est pas plus intéressant que la plupart des matières. | 2 |
| c) n'est pas intéressant du tout. | 1 |
| 5. Si je connaissais suffisamment l'anglais et si j'en avais l'occasion, je lirais des revues et des journaux anglais... | |
| a) le plus souvent possible. | 3 |
| b) pas très souvent. | 2 |
| c) jamais. | 1 |
| 6. S'il y avait un club d'anglais à mon école... | |
| a) je n'en ferais sûrement pas partie. | 1 |
| b) je serais très intéressé(e) à en faire partie. | 3 |
| c) j'irais aux réunions de temps à autre. | 2 |

- | | | |
|-----|--|---|
| 7. | Si j'en avais l'occasion et si je connaissais suffisamment l'anglais, je suivrais à la télévision des émissions anglaises... | |
| | a) jamais. | 1 |
| | b) quelquefois. | 2 |
| | c) le plus souvent possible. | 3 |
| 8. | Si j'avais l'occasion de parler anglais à l'extérieur de l'école,... | |
| | a) je ne parlerais jamais anglais. | 1 |
| | b) je le parlerais à l'occasion, en employant le français le plus possible. | 2 |
| | c) je parlerais anglais presque tout le temps; j'utiliserais le français seulement si c'était nécessaire. | 3 |
| 9. | Pendant le cours d'anglais, j'aimerais... | |
| | a) que l'on parle seulement l'anglais. | 3 |
| | b) que l'on mélange le français et l'anglais. | 2 |
| | c) que l'on parle le plus de français possible. | 1 |
| 10. | Si j'avais le choix de prendre (ou non) le cours d'anglais,... | |
| | a) je ne sais pas si je le prendrais ou non. | 2 |
| | b) je le prendrais certainement. | 3 |
| | c) j'abandonnerais le cours. | 1 |

Orientation Index

J'étudie l'anglais parce que...

- | | | |
|----|--|---|
| a) | je pense que ça sera utile un jour pour trouver un bon emploi. | 1 |
| b) | je pense que ce sera utile pour m'aider à comprendre les Anglais et leur culture. | 2 |
| c) | cela me permettra de rencontrer et de communiquer avec un plus grand nombre de personnes d'origines différentes. | 2 |
| d) | une connaissance de deux langues fera de moi une personne instruite. | 1 |

Student Self-rating

Indiquez vos réponses aux affirmations qui suivent, en plaçant un X dans l'espace approprié. Par exemple si vous pensez que vous pouvez écrire un peu l'anglais, vous devez placer un X au-dessus des mots "un peu". J'écris en anglais.

_____	:	_____	:	X	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

Si toutefois, vous pensez que vous pouvez écrire en anglais entre "pas du tout" et "un peu", vous devez placer un X dans l'espace entre ces deux affirmations. J'écris en anglais.

_____	:	X	:	_____	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

1. J'écris en anglais.

_____	:	_____	:	_____	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

2. Je comprends l'anglais.

_____	:	_____	:	_____	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

3. Je lis l'anglais.

_____	:	_____	:	_____	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

4. Je parle l'anglais.

_____	:	_____	:	_____	:	_____	:	_____	:	_____
pas du				un peu		assez bien				couramment
tout										

APPENDIX B

Correlation Matrices for
Grade 10 and 11 Samples -- Study 1

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010
VAR001	1.00000	.24947	-.29686	.04405	.25927	.22554	.18780	-.09898	.02869	.19233
VAR002	.24947	1.00000	-.37673	-.17693	.04008	.18705	.11686	-.17484	.09005	.25560
VAR003	-.29686	-.37673	1.00000	.27117	.02946	-.18155	-.05637	.30966	-.05920	-.25843
VAR004	.04405	-.17693	.27117	1.00000	.16394	-.03276	.10923	.31211	.12324	-.19147
VAR005	.25927	.04008	.02946	.16394	1.00000	.58981	.08388	.29984	.44059	.60421
VAR006	.22554	.18705	-.18155	-.03276	.58981	1.00000	.78409	.26882	.42580	.66439
VAR007	.18780	.11686	-.05637	.10923	.08388	.78409	1.00000	.42820	.43394	.63705
VAR008	-.09898	-.17484	.30966	.31211	.29984	.26882	.42820	1.00000	.33167	.22073
VAR009	.02869	.09005	-.05920	.12324	.44059	.42580	.43394	.33167	1.00000	.49780
VAR010	.19233	.25560	-.25843	-.19147	.60421	.66439	.63705	.22073	.49780	1.00000
VAR011	.27391	.02242	.00431	.03860	.64832	.40942	.33981	.25528	.39946	.50369
VAR012	-.00718	-.23003	.49542	.23793	.22124	.15858	.24290	.31609	.14132	-.06737
VAR013	.12545	.20976	-.33614	-.08263	.49173	.64227	.61241	.22942	.34957	.60730
VAR014	.09712	-.02009	.15275	.74805	.01781	-.08470	.02903	.19732	.02016	-.30367
VAR015	.14645	.08785	-.07004	.09740	.56253	.32601	.40227	.21376	.17958	.30261
VAR016	.43871	.25113	-.24032	-.13099	.10145	.16623	.05717	-.06039	.02456	.21574
VAR017	-.05998	.00216	-.11337	-.00191	.21137	.18107	.19107	.06638	.08211	.37188
VAR018	.21488	.00357	-.05275	.07955	.50401	.23379	.29976	.16885	.19196	.31516
VAR019	.21772	.15239	-.03332	-.15333	-.13729	.03682	-.08355	-.13696	.08395	.00408
VAR020	-.10288	-.00966	-.06654	-.16120	.35200	.34618	.36765	.12321	.30087	.52999
VAR021	.16300	-.06556	.00573	-.09651	.08076	-.09014	-.10441	-.23338	-.09557	-.14371
VAR022	.09157	-.17818	.01673	.42705	-.04745	-.15770	-.08447	.16352	-.16471	-.30231
VAR023	.04786	.11347	-.25989	-.11631	-.12278	.15900	.02541	-.04295	-.16752	.03765
VAR024	.01906	.18204	.02675	-.25568	.05444	.21913	.12630	-.02837	.14821	.21530
VAR025	-.02919	.15898	-.01675	-.38293	-.08975	.11506	-.00926	-.16600	-.00623	.20534
VAR026	.11595	.33125	-.23964	-.28498	.33776	.45546	.35685	.03048	.33194	.62086
VAR027	.16702	.30448	-.24969	-.17192	.46569	.64771	.53804	.14132	.42681	.76431
VAR028	.04003	.05857	.02020	-.15602	.21390	.12219	.12464	-.28373	-.16143	.14134
VAR029	.07544	.23129	-.22740	-.53947	.00194	.24967	.14844	-.28945	-.01239	.17760
VAR030	-.03308	.17605	-.16794	-.56434	-.03522	.26584	.14500	-.25113	-.00712	.23224
VAR031	-.01248	.11006	-.15058	-.48749	-.05437	.26093	.14832	-.09709	-.05525	.26998
VAR032	-.16852	.14077	-.08114	-.58327	.03428	.18926	.07830	-.14813	-.01850	.27185
VAR033	.06788	.35317	-.33363	-.22393	-.28919	.08921	-.11702	-.29793	-.18426	-.07765
VAR034	.03379	.30360	-.30475	-.13217	-.30244	.01189	-.13302	-.37140	-.16610	-.05353
VAR035	.01836	.19203	-.14607	-.37243	-.24846	.08471	-.07819	-.20796	-.11045	.00368
VAR036	.04144	.26320	-.44768	-.18502	-.30662	.03051	-.09062	-.28703	-.18340	-.00470
VAR037	.06364	.27138	-.20728	-.33468	-.06536	.21399	.02868	-.26609	-.00296	.12150
VAR038	.04651	.20943	-.11923	-.32095	-.10181	.22014	.04523	-.13825	-.11393	.12510

Grade 10 sample

	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020
VAR001	.27391	-.00718	.12545	.09712	.14645	.43871	-.05998	.21488	.21772	-.10288
VAR002	.02242	-.23003	.20976	-.02009	.08785	.25113	.00216	.00357	.15239	-.00946
VAR003	.00431	.49542	-.33614	.15275	-.07004	-.26032	-.11337	-.05273	-.03332	-.06654
VAR004	.03460	.23793	-.08263	.74805	.09740	-.13699	-.00191	.07955	-.15333	-.16120
VAR005	.64832	.22124	.49173	.01781	.56253	.10145	.21137	.50401	-.13729	.35200
VAR006	.44442	.15458	.64227	-.08470	.32601	.16623	.18107	.23379	.03682	.34618
VAR007	.53981	.24290	.61241	.02903	.40227	.05717	.19107	.29976	-.08355	.36765
VAR008	.25528	.31609	.22942	.19732	.21374	-.06039	.06638	.16845	-.13696	.12321
VAR009	.39446	.14132	.34957	.02016	.17958	.02456	.08211	.19196	.08345	.30887
VAR010	.50369	-.04737	.60730	-.30347	.58261	.21574	.37188	.31514	.00408	.52445
VAR011	1.00000	.09161	.39078	-.07398	.06932	.14176	.21253	.51451	.02937	.29405
VAR012	.09161	1.00000	-.10752	.15012	-.08807	-.27112	-.14281	-.04285	-.16485	-.12164
VAR013	.39078	-.10752	1.00000	-.10204	.38354	.24581	.27850	.25532	-.01460	.39555
VAR014	-.07398	.15012	-.10204	1.00000	.06514	-.08395	-.03482	.10686	-.11420	-.29529
VAR015	.06932	-.08807	.38354	.06514	1.00000	.13654	.27724	.63042	.02933	.34355
VAR016	.14176	-.27112	.24581	-.08395	.13654	1.00000	.22825	.17941	.41926	.03512
VAR017	.21253	-.14281	.27850	-.03482	.27724	.22825	1.00000	.27914	.02929	.70540
VAR018	.51451	-.04285	.25532	.10686	.63042	.17941	.27914	1.00000	.02371	.27257
VAR019	.02937	-.10485	-.01460	-.11420	.02933	.41926	.02929	.02371	1.00000	-.05799
VAR020	.29405	-.12164	.39555	-.29529	.34355	.03512	.70540	.27257	-.05799	1.00000
VAR021	.06446	-.09547	-.15250	-.12462	-.765	.04589	-.07897	-.08083	.07725	-.11960
VAR022	-.06454	.15657	-.11480	.48074	-.737	.04810	-.10938	-.07545	-.06092	-.31335
VAR023	.02426	-.18093	.12336	-.03611	.05734	.13660	.04394	.01046	.11230	.06672
VAR024	.09248	.14509	.14357	-.30262	.00647	.05687	.09324	.04526	-.02066	.20956
VAR025	.03878	-.16921	.13515	-.30458	.05476	.16491	.06968	.17723	.06917	.10782
VAR026	.38493	-.14002	.33665	-.37584	.30256	.14956	.32560	.27889	.03282	.43562
VAR027	.43682	-.01969	.58101	-.30537	.36021	.16337	.28476	.34620	-.00491	.47785
VAR028	.04006	.01876	-.11088	-.16401	.17047	-.07847	.05471	.09909	-.08964	.00501
VAR029	.08037	-.12125	.21378	-.08295	.07976	.04572	.00561	-.03948	.16349	.12841
VAR030	.04029	-.13941	.29838	-.52011	.04779	.00139	.03639	-.00767	.06403	.17935
VAR031	-.00407	-.08159	.24451	-.53075	.05626	.11111	.03700	-.01953	.13639	.17970
VAR032	.08892	-.14876	.26817	-.59002	.07996	-.03514	.02263	.03841	-.00024	.21469
VAR033	-.17167	-.23800	.03313	-.09504	-.11450	.09554	-.06771	-.11124	.09366	-.11884
VAR034	-.13149	-.24749	.05108	-.09232	-.19344	.11098	.00484	-.19478	.03741	-.07185
VAR035	-.10779	-.17894	.07450	-.24257	-.04385	.05657	.00359	-.10120	.09735	.05656
VAR036	-.09624	-.34690	.10422	-.11129	-.17213	.14101	.03868	-.15414	.04239	-.08024
VAR037	-.01110	-.07517	.08948	-.37802	.01825	.07332	-.03357	.01320	.00423	.04726
VAR038	-.02276	-.00949	.11027	-.33950	-.09349	.01167	-.05180	-.11633	-.03181	.01493

Grade 10 sample (cont.)

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR001	.16300	.09197	.04786	.01906	-.02919	.11595	.16702	.04003	.02544	-.03308
VAR002	-.06556	-.17814	.11347	.18206	.15898	.33125	.30948	.05857	.23129	.17405
VAR003	.00573	.01673	-.25989	.02675	-.01675	-.23964	-.24969	.02020	-.22748	-.16794
VAR004	-.08691	.02705	-.11631	-.25568	-.36253	-.28498	-.17192	-.15602	-.53947	-.56434
VAR005	.08076	-.04745	-.12278	.05444	-.08975	.33774	.46569	.21390	.00194	-.03522
VAR006	-.09014	-.15770	.19900	.21913	.11506	.45546	.86771	.12219	.24967	.26584
VAR007	-.10841	-.08447	.02541	.12810	-.00926	.35685	.53804	.12464	.18844	.14500
VAR008	-.23338	.16352	-.04295	-.02837	-.16604	.05048	.14132	-.28373	-.28485	-.25113
VAR009	-.09557	-.16471	-.16752	.14821	-.00623	.33194	.02681	-.16143	-.01234	-.00712
VAR010	-.18371	-.30231	.01745	.21530	.20534	.62086	.76431	.14134	.17700	.23224
VAR011	.08646	.06454	.02826	.09258	.03078	.30493	.43682	.04006	.08037	.06029
VAR012	-.09547	.15657	-.18093	.18509	-.16921	-.14002	-.01949	.01876	-.12125	-.13941
VAR013	-.15250	-.11080	.12336	.14357	.13515	.33645	.54101	-.11088	.21375	.29838
VAR014	-.12842	.08074	-.03611	-.30262	-.30456	-.37584	-.30537	-.16401	-.48295	-.52011
VAR015	-.03765	-.08737	.05498	.00649	.05476	.36256	.36021	.17047	.07976	.04779
VAR016	-.08489	.08410	.03660	.05647	.01691	.14854	.16337	-.07847	.04572	.00139
VAR017	-.07897	-.10438	.04394	.09324	.06968	.32560	.28876	.05471	.00561	.03834
VAR018	-.08083	-.07585	.01046	.04520	.17723	.27889	.34620	.09909	-.03948	-.00767
VAR019	.07725	-.08892	.11230	-.02066	.06917	.03282	-.00491	-.08964	.16349	.06403
VAR020	-.11960	-.31335	.06672	.20956	.17782	.43562	.47785	.00501	.12841	.17435
VAR021	1.00000	-.06598	.00979	-.02324	-.03241	-.11333	-.23864	-.01354	.12650	.08227
VAR022	-.06598	1.00000	-.00607	-.24694	-.32411	-.16474	-.16476	-.22285	-.38213	-.45154
VAR023	.00979	-.00607	1.00000	.02556	.06353	.12503	.06688	-.15649	.18782	.22151
VAR024	-.02324	-.24694	.02556	1.00000	.22450	.27698	.20481	-.02326	.30034	.50368
VAR025	-.00037	-.32651	.06303	.22450	1.00000	.21167	.23940	.04561	.34089	.46901
VAR026	-.11333	-.46478	.10403	.27698	.29167	1.00000	.73177	.09699	.35404	.36128
VAR027	-.23864	-.36476	.06648	.20481	.23940	.73177	1.00000	.10887	.23029	.23679
VAR028	-.01354	-.22285	-.15649	-.02326	.04561	.09699	.10887	1.00000	.12119	.02382
VAR029	.12650	-.38213	.18782	.30034	.34089	.35404	.23029	.12119	1.00000	.75962
VAR030	.08227	-.45154	.22151	.50368	.46901	.36128	.23679	.02382	.75962	1.00000
VAR031	.04181	-.19440	.24902	.25231	.32277	.33279	.32354	-.01614	.64306	.68502
VAR032	.02300	-.55254	.21733	.30150	.62489	.41221	.11307	.09680	.68254	.79762
VAR033	.04254	-.08580	.18910	.04402	.17693	.09688	.00897	-.00513	.34524	.35075
VAR034	.13783	-.03346	.14008	-.03032	.14638	.06992	.02177	.01224	.21811	.21834
VAR035	-.05196	-.30615	.18049	.16454	.24582	.27356	.14127	-.06307	.45287	.51559
VAR036	.01804	-.03250	.14361	-.04912	.11188	.14585	.06024	-.00560	.17164	.22173
VAR037	-.00700	-.16263	.25009	.27392	.30222	.34275	.25180	.24921	.56889	.60259
VAR038	-.03097	-.35803	.24456	.23526	.33343	.30349	.25433	.12564	.50387	.59751

Grade 10 sample (cont.)

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036	VAR037	VAR038
VAR001	-.01268	-.14032	.06788	.03379	.01636	.00100	.06360	.06691																														
VAR002	.11000	.14077	.35337	.30360	.19203	.26320	.27138	.20903																														
VAR003	-.15030	-.08114	-.22563	-.30479	-.18607	-.04768	-.20720	-.11423																														
VAR004	-.04780	-.50327	-.22342	-.13217	-.37283	-.18502	-.13668	-.32095																														
VAR005	-.09437	.03428	-.28010	-.30240	-.28046	-.10662	-.00536	-.10181																														
VAR006	.24093	.18926	.08921	.01189	.08071	.03051	.21399	.22014																														
VAR007	.14832	.07830	.11702	.13302	-.07819	-.09062	.02860	.04923																														
VAR008	-.08700	-.10813	-.24793	-.37160	-.20796	-.28703	-.26609	.04923																														
VAR009	-.05525	-.01840	-.18426	-.18010	-.11045	-.18340	-.00470	.12510																														
VAR010	.24998	.27185	-.07765	-.05313	.00368	-.00470	-.09624	-.01110																														
VAR011	-.00007	.04842	-.17167	-.13110	-.10779	-.19898	-.00422	-.04909																														
VAR012	-.08159	-.16876	-.23800	-.28710	-.19898	-.07890	.10422	.11027																														
VAR013	.24451	.26817	.03313	-.09504	-.09232	-.26297	-.11120	-.37802																														
VAR014	-.53075	-.59002	.09554	.09504	.08385	-.04385	-.17213	-.33950																														
VAR015	.04626	.07996	-.11450	-.14364	.11098	.05697	.01825	-.05349																														
VAR016	.11901	-.03919	.09554	.09504	.08385	-.04385	-.17213	-.33950																														
VAR017	.03700	.02263	-.06771	.00000	.03590	.03860	-.03332	.01167																														
VAR018	-.01953	.03881	-.11124	-.19478	-.10120	-.15414	.01320	-.05180																														
VAR019	.13639	-.00024	.09366	.01741	.07359	-.04239	.00423	-.03181																														
VAR020	.17970	.21469	-.11484	-.07145	.0656	-.08024	.04726	.01493																														
VAR021	.05181	.02300	.04254	.13711	.0656	.01804	-.00700	-.03057																														
VAR022	-.39440	-.55254	-.08500	-.03313	-.30198	-.03290	-.3626	-.35803																														
VAR023	.24402	.21733	.18910	.14008	.18019	.14361	.25400	.24456																														
VAR024	.24251	.30190	.08442	-.03032	.16454	-.06912	.27392	.23526																														
VAR025	.12277	.42489	.17493	.14638	.24567	.11180	.30222	.33303																														
VAR026	.53249	.41221	.09688	.06492	.27356	.14585	.34275	.30345																														
VAR027	.32354	.31307	.00897	.02177	.14127	.04024	.29180	.25433																														
VAR028	-.01614	.09680	-.00513	.01224	-.06307	-.00560	.24921	.12560																														
VAR029	.64386	.68254	.34524	.21811	.45297	.17166	.50849	.50387																														
VAR030	.64502	.79762	.39075	.21834	.51550	.72173	.60259	.59751																														
VAR031	1.00000	.67321	.33553	.20146	.46929	.10671	.47336	.46176																														
VAR032	.67321	1.00000	.30372	.16410	.47180	.12192	.59020	.57491																														
VAR033	.33553	.30372	1.00000	.71881	.66377	.67792	.93426	.97491																														
VAR034	.20146	.16410	.71881	1.00000	.60674	.71632	.84018	.80710																														
VAR035	.46929	.47180	.66377	.60674	1.00000	.54188	.58779	.69635																														
VAR036	.10671	.12042	.67792	.71632	.54188	.58779	.37844	.43062																														
VAR037	.67316	.59420	.53626	.44018	.58779	.37844	1.00000	.79186																														
VAR038	.46176	.57491	.60710	.46795	.69635	.43062	.79186	1.00000																														

Grade 10 sample (cont.)

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010
VAR001	1.00000	.31231	-.36811	.14766	.19214	.19657	.15179	-.32706	.60130	-.01938
VAR002	.31231	1.00000	-.24364	-.17417	.16336	.21111	.05181	-.12598	-.01756	.13716
VAR003	-.36811	-.24364	1.00000	.03250	.01238	-.12621	-.03773	.26417	.26277	.08425
VAR004	.14766	-.17417	.03250	1.00000	-.01103	-.08052	-.00664	.05186	.09420	-.24426
VAR005	.19214	.16336	.01238	-.01103	1.00000	.47636	.63198	.31584	.34647	.60885
VAR006	.19657	.21111	-.12621	-.08052	.47636	1.00000	.63423	.14141	.36422	.65576
VAR007	.15179	.05181	-.03773	-.00664	.63198	.63423	1.00000	.39253	.41948	.67791
VAR008	-.32706	-.12598	.26417	.05186	.31584	.14141	.39253	1.00000	.37889	.31619
VAR009	.60130	-.01756	.26277	.09420	.34647	.36422	.41948	.37889	1.00000	.45712
VAR010	-.01938	.13716	.08425	-.24426	.60885	.65576	.67791	.31619	.45712	1.00000
VAR011	.01979	.10830	-.00145	-.07330	.72931	.38063	.50498	.33805	.32080	.55269
VAR012	-.20875	-.16249	.33522	.11953	-.00784	.04908	.05412	.21153	.10364	.01551
VAR013	.04630	.07919	-.06154	-.10615	.60483	.48072	.65465	.37180	.30482	.61951
VAR014	.10977	-.17553	-.07384	.65256	-.09894	-.18813	-.09553	.00997	.01190	-.29969
VAR015	-.00015	.12517	-.01378	-.10923	.52923	.30304	.45352	.28412	.19105	.46425
VAR016	.32100	.11706	-.17195	-.04887	.15513	.15263	.26756	-.02648	.01929	.10552
VAR017	-.14946	-.02240	.08904	-.04798	.03472	-.06831	.11584	.19795	.10529	.11113
VAR018	.02709	.20740	.00072	-.04241	.60190	.30497	.43958	.34238	.23852	.47189
VAR019	.01825	.11477	-.15620	-.02991	.07784	.01627	.12443	.02071	.03634	.08471
VAR020	-.20811	.06111	.22953	-.16494	.31821	.17896	.34704	.35329	.32556	.50884
VAR021	-.05166	.01810	-.12436	.00656	-.26901	-.32833	-.24348	-.29361	-.34537	-.45113
VAR022	.07197	-.13883	-.08798	.27492	-.08102	-.09785	-.20670	-.01048	-.09167	-.30591
VAR023	.12340	.09820	-.21568	-.15293	.07062	.10041	.07866	-.01079	-.13060	.06916
VAR024	-.03759	-.00177	.16898	-.20713	.00554	.15727	.06877	-.07482	.04623	.17027
VAR025	-.00838	.08841	.08244	-.32325	.19436	.25291	.22497	.18755	.04681	.35555
VAR026	.11371	.26878	.09914	-.30946	.37124	.39249	.46082	.23388	.38808	.63916
VAR027	.06153	.21140	.15982	-.27833	.55755	.53112	.52167	.31751	.37247	.74673
VAR028	.13429	-.00088	-.22305	-.00624	.05180	.20003	.15814	-.24637	-.20874	.15960
VAR029	-.09208	.11776	.13571	-.44111	.36816	-.2036	.30134	.28611	.17020	.50495
VAR030	-.09160	.13956	.08073	-.43867	.17561	.27037	.26643	.13209	.14868	.40547
VAR031	-.04575	.20500	.02123	-.32911	.30222	.40234	.24768	.10811	.16948	.46153
VAR032	-.21982	.13143	.18855	-.46264	.29115	.29506	.20377	.20990	.19127	.46044
VAR033	.18827	.15888	-.34042	-.08379	-.07138	.18835	.05548	-.02285	.03995	.08054
VAR034	-.07229	.00942	-.22941	-.09563	-.14834	.08090	.03154	-.01111	-.05028	.04498
VAR035	-.19252	-.01316	-.12218	-.30736	-.13791	.08662	-.01058	.03448	.03448	.10568
VAR036	.01983	.04080	-.09562	-.08444	-.14211	.01918	.03718	.07700	-.00320	-.02045
VAR037	-.02904	-.00688	-.03440	-.40537	-.12681	-.00936	-.02500	.00492	-.07470	.11570
VAR038	-.02508	-.00449	-.15413	-.27150	-.08404	.07577	.09709	.05083	-.00463	.17310

Grade 11 sample

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	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020
VAR001	.03979	-.20875	.04630	.10977	-.00015	.32100	-.14906	.02709	.01825	-.20811
VAR002	.10830	-.16249	.07919	-.17553	.12917	.11706	-.02260	.20740	.11477	.06111
VAR003	-.00145	.33522	-.06154	-.07384	-.01378	-.17195	.08904	.00072	-.15620	.22953
VAR004	-.07330	.11943	-.10615	.65256	-.10923	-.04887	-.04798	-.04281	-.02991	-.16494
VAR005	.72931	-.00784	.60483	-.09894	.52923	.15513	.03472	.60190	.07784	.31821
VAR006	.38063	.04908	.48072	-.18613	.30304	.15263	-.06831	.30497	.01627	.17896
VAR007	.50498	.05412	.65665	-.09553	.45352	.26756	.11584	.43958	.12443	.34704
VAR008	.33805	.21153	.37180	.00997	.28412	-.02688	.19795	.34238	.02071	.35329
VAR009	.32040	.10364	.30482	.01190	.19105	.01929	.10529	.23852	.03634	.32558
VAR010	.55269	.01551	.61951	-.29969	.46425	.10552	.11113	.47149	.08471	.50884
VAR011	1.00000	-.09632	.44171	-.20281	.45538	.23178	.20233	.66769	.01332	.36731
VAR012	-.09632	1.00000	.04113	.15000	-.13133	.01642	.07781	-.16759	-.25256	.06759
VAR013	.44171	.04113	1.00000	-.11098	.44710	.12019	-.06930	.42213	-.04111	.17392
VAR014	-.20281	.15000	-.11098	1.00000	-.17034	-.05211	-.06692	-.17871	-.10105	-.17771
VAR015	.45538	-.13133	.44710	-.17034	1.00000	.36641	.23746	.69881	.30332	.39200
VAR016	.23178	.01642	.12019	-.05211	.36641	1.00000	.42105	.31197	.28186	.19482
VAR017	.20233	.07781	-.06930	-.06692	.23746	.42105	1.00000	.23632	.32768	.68244
VAR018	.66769	-.16759	.42213	-.17871	.69881	.31197	.23632	1.00000	.20194	.43728
VAR019	.01332	-.25256	-.04111	-.10105	.30742	.28186	.32768	.20194	1.00000	.31765
VAR020	.36731	.06759	.17392	-.17771	.39240	.19482	.68244	.43728	.31765	1.00000
VAR021	-.22664	-.15253	-.27923	.07174	-.34613	-.13350	-.02199	-.31467	-.05567	-.22247
VAR022	-.09959	-.14550	-.13139	.34711	-.21151	-.09918	-.09291	-.17562	-.06744	-.21472
VAR023	.10191	-.10170	.07312	-.19265	.06604	.16535	.07017	.04982	.17761	.05495
VAR024	.05840	.26715	.07877	-.17338	.02571	.09048	.01362	.03965	-.11471	.14794
VAR025	.35812	.15455	.19306	-.35993	.25643	.14536	.10755	.21365	.04855	.25554
VAR026	.32957	.02219	.36907	-.40543	.13755	.23365	.21341	.38121	.23459	.54852
VAR027	.50805	.13886	.51122	-.26841	.45840	.19672	.14927	.51486	.08163	.42762
VAR028	.10290	.05026	.11417	.10091	.13548	.10202	.02139	-.06825	.00328	-.00621
VAR029	.39234	.10446	.38134	-.52650	.30247	.03604	.00129	.28117	.08899	.25734
VAR030	.25939	.12185	.23479	-.47893	.11384	.11048	.07806	.16597	.06995	.19151
VAR031	.34857	.12178	.35523	-.39097	.22394	.08121	-.05857	.27931	-.05904	.17475
VAR032	.35546	.12619	.21768	-.53113	.13982	-.08826	-.06083	.20430	.08222	.24778
VAR033	-.02889	-.09535	.12398	.04379	-.11640	.01867	-.24348	-.11507	-.08796	-.28955
VAR034	-.06692	-.05219	.12679	.03254	-.14844	-.05693	-.14635	-.19603	-.06842	-.22499
VAR035	.02956	.02151	.07698	-.22274	-.11250	-.10174	-.11328	-.05254	-.10037	-.12733
VAR036	-.09151	-.02406	.14649	-.02368	-.12667	.02242	-.07776	-.13575	-.12033	-.17367
VAR037	.01118	.01117	-.04155	-.22741	-.14144	.00917	-.02770	-.09486	-.15867	-.06389
VAR038	-.02997	-.05242	.07185	-.05876	-.04289	.01139	-.05386	.00085	-.17342	-.01003

Grade 11 sample (cont.)

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR001	-.05166	.07197	.12340	-.03759	-.00838	.11371	.06153	.13429	-.09208	-.09160
VAR002	.01810	-.13883	.09820	-.00177	.08841	.26878	.21180	-.00088	.11776	.13956
VAR003	-.12436	-.08798	-.21568	.16898	.08284	.09914	.15982	-.22305	.13571	.08073
VAR004	.00656	.27492	-.15293	-.20753	-.32325	-.30986	-.22833	-.00624	-.48111	-.43867
VAR005	-.26901	-.08102	.07062	.00554	.19436	.37124	.55755	.05180	.36816	.17561
VAR006	-.32833	-.09785	.10081	.15727	.25291	.39249	.53112	.20003	.42036	.27037
VAR007	-.24348	-.20670	.07866	.06877	.22497	.46082	.52167	.15814	.30134	.26643
VAR008	-.29361	-.01088	-.01079	-.07482	.18755	.23388	.31751	-.24637	.28611	.13209
VAR009	-.34537	-.09167	-.13060	.04623	.08681	.38808	.37247	-.20874	.17020	.14868
VAR010	-.45113	-.30591	.06916	.17027	.35555	.63916	.74673	.15960	.50695	.40547
VAR011	-.27664	-.09959	.10191	.05840	.35812	.32957	.50805	.10290	.39234	.25939
VAR012	-.15253	-.14550	-.10170	.26715	.15455	.02219	.13846	.05026	.10486	.12185
VAR013	-.27923	-.13139	.07312	.07877	.14306	.36907	.51122	.11417	.38134	.23479
VAR014	.07174	.38711	-.19265	-.17338	-.35993	-.40543	-.10091	-.52658	-.47893	-.11344
VAR015	-.34623	-.21195	.06606	.02571	.27643	.33755	.45840	.13548	.30287	.11344
VAR016	-.13350	-.09918	.16535	.09048	.14534	.23365	.19672	.10202	.03604	.11088
VAR017	-.02199	-.09291	.07017	.01362	.19755	.21341	.14927	.02139	.00129	.07806
VAR018	-.31467	-.17562	.04982	.01965	.21165	.38121	.51486	-.06225	.28117	.16397
VAR019	-.05567	-.06744	.17761	-.11471	.04655	.23459	.08163	.00328	.04899	.06995
VAR020	-.22217	-.21472	.05095	.18744	.25454	.54852	.42762	-.00621	.25734	.19151
VAR021	1.00000	.04681	.09016	.06434	-.07535	-.35576	-.55987	.02276	-.22367	-.00552
VAR022	.04681	1.00000	-.07339	-.32565	-.30217	-.34640	-.22939	.04038	-.31522	-.46786
VAR023	.09016	-.07339	1.00000	-.11771	.12011	.12791	.07536	-.07873	.22180	.18448
VAR024	.06434	-.32565	-.11771	1.00000	.36071	.31423	.19933	.10151	.22235	.32628
VAR025	-.07535	-.30232	.12011	.36071	1.00000	.32893	.37753	.18033	.44523	.45143
VAR026	-.35576	-.34640	.12791	.31423	.32893	1.00000	.66937	.04710	.39940	.40173
VAR027	-.55987	-.22939	.07536	.19933	.37753	.66937	1.00000	.12347	.48731	.38128
VAR028	.02276	.04038	-.07873	.10151	.18033	.04710	.12347	1.00000	-.01328	-.02746
VAR029	-.22367	-.31522	.22180	.22235	.44523	.39940	.48731	-.01328	1.00000	.65603
VAR030	-.00552	-.46786	.18448	.32628	.45143	.40173	.38128	.65603	.64137	1.00000
VAR031	-.17020	-.23052	.18448	.22330	.27380	.33936	.41143	.02498	.65711	.64137
VAR032	-.14722	-.31625	.08944	.37083	.51098	.42788	.45690	-.04300	.71300	.73729
VAR033	.18634	.00011	.14185	-.03795	.03031	-.02418	-.01753	.06415	.22227	.21519
VAR034	.14162	.00071	.15319	-.14019	.01148	-.08282	-.09593	.05027	.20524	.19340
VAR035	.14950	-.08455	.23044	.03198	.15611	.08164	.06315	-.05045	.49211	.45243
VAR036	.19222	-.08982	.05613	-.05891	-.02992	-.09713	-.05993	.06112	.16524	.20216
VAR037	.05619	-.05383	.05586	.09055	.15957	.15265	.12751	.02540	.30131	.25058
VAR038	-.02926	-.04179	.05509	.01801	.07358	.16828	.13394	.01962	.24982	.23645

Grade 11 sample (cont.)

	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036	VAR037	VAR038
VAR001	-.04575	-.21942	.18827	-.07229	-.19252	.01983	-.02904	-.02508
VAR002	.20500	.13143	.15888	.00982	-.01316	.04040	-.00648	-.00489
VAR003	.02123	.18855	-.34042	-.22981	-.12218	-.09562	-.03440	-.15813
VAR004	-.32911	-.46264	-.08379	-.09563	-.30736	-.08444	-.40537	-.27150
VAR005	.30222	.29115	-.07138	-.14834	-.13791	-.14211	-.12681	-.08408
VAR006	.40324	.29506	.18835	.08090	.08662	.01918	-.00936	.07577
VAR007	.24768	.20377	.05548	.03154	-.01058	.03718	-.02500	.09709
VAR008	.10811	.20990	-.02285	-.01111	.05425	.07700	.00492	.05083
VAR009	.16948	.19127	.03995	-.05028	.03848	-.00320	-.07470	-.00863
VAR010	.46153	.46044	.08054	.04498	.10568	-.02085	.11570	.17310
VAR011	.34857	.35506	-.02889	-.06692	.02956	-.09151	.03118	-.02997
VAR012	.12178	.12619	-.09535	-.05219	.02151	-.02406	.01117	-.05282
VAR013	.35523	.21768	.12398	.12879	.07698	.14649	-.04155	.07185
VAR014	-.39097	-.53113	.08379	.03254	-.22274	-.02368	-.22741	-.05876
VAR015	.22394	.13942	-.11640	-.14844	-.11250	-.12667	-.14144	-.04289
VAR016	.08121	-.08826	.01867	-.05693	-.10774	.02282	.00917	.01139
VAR017	-.05857	-.06083	-.24348	-.14636	-.11328	-.07776	-.02770	-.05386
VAR018	.27931	.20430	-.11507	-.19603	-.05254	-.13575	-.09486	.00085
VAR019	-.05904	.08222	-.08796	-.06842	.10037	-.18033	-.15867	-.17342
VAR020	.17475	.24778	-.28955	-.22499	-.12733	-.17367	-.06389	-.01003
VAR021	-.17020	-.14722	.18634	.17742	.14950	.19222	.05619	-.02926
VAR022	-.23052	-.31625	.00011	.00111	-.1455	-.04982	-.05383	-.04179
VAR023	.18290	.08944	.14185	.15311	.2144	.05613	.05586	.05509
VAR024	.22330	.37083	-.03795	-.14010	.01198	-.05891	.09055	.01801
VAR025	.27380	.51098	.03031	-.01148	.15111	-.02992	.15957	.07358
VAR026	.33936	.42768	-.02418	-.08282	.08164	-.09713	.15265	.16824
VAR027	.41143	.45690	-.01753	-.09593	.06315	-.05993	.12751	.13394
VAR028	.02498	-.04300	.06415	.05427	-.05045	.06112	.02540	.01902
VAR029	.65711	.71300	.22227	.20524	.49211	.16524	.30131	.24982
VAR030	.64137	.73729	.21519	.19340	.45203	.20216	.25058	.23695
VAR031	1.00000	.68281	.03236	.07023	.35821	.12870	.19056	.16918
VAR032	.68281	1.00000	.02076	.05462	.37011	-.02145	.18354	.07866
VAR033	.03236	.02076	1.00000	.68863	.60166	.65425	.40319	.54509
VAR034	.07023	.05462	.68863	1.00000	.64240	.68085	.38659	.52955
VAR035	.35825	.37011	.60166	.64240	1.00000	.48600	.57152	.54777
VAR036	.12870	-.02145	.65425	.68085	.48600	1.00000	.39925	.50822
VAR037	.18354	.18354	.40319	.38659	.57152	.39925	1.00000	.76845
VAR038	.16918	.07866	.54509	.52955	.54777	.50822	.76845	1.00000

Grade 11 sample (cont.)

APPENDIX C

Reliability Coefficients for all Scales and
Items of the New Scales Used in Study III

Kuder-Richardson/20 Reliability Coefficients

Variable	K-R/20
Degree of Instrumentality	.69
Degree of Integrativeness	.80
Generalized Interpersonal Anxiety	.57
English Learning Anomie	.64
French Class Anxiety	.80
English Test Anxiety	.76
English Speaking Threat	.69
English Learning Threat	.34
Degree of Manipulativeness	.63
English Class Anxiety	.85
English Use Anxiety	.87
Attitude toward English Canadians	.86
Attitude toward Learning English	.89
Attitude toward Americans	.86
Attitude toward the Act of Re-enrolling in English	.85
Frequency of Contact	.81
Attitude toward the Act of Getting a Good Mark in English	.89
Motivational Intensity	.77
Aural Comprehension	.80
Reading Comprehension	.65
Grammatical Knowledge	.86

Degree of Instrumentality

1. Apprendre l'anglais est important pour moi, parce que cela me permettra un jour de trouver un bon emploi.
2. Apprendre l'anglais est important pour moi car cela me permettra de réussir dans ma future occupation.
3. Apprendre l'anglais est important pour moi parce que les gens me respecteront d'avantage.
4. Il est important pour moi d'apprendre l'anglais parce que c'est nécessaire pour l'obtention de mon diplôme.
5. Il est important pour moi d'apprendre l'anglais car cela me permettra de voyager plus confortablement.

Generalized Inter-personal Anxiety

1. J'ai de la difficulté à initier une conversation.
2. Je considère que je suis une personne gênée.
3. Quand je suis dans un groupe j'essaie de faire rire les gens.
4. Je me soucie de ce que les autres personnes pensent de moi.
5. Habituellement, je me sens complètement relaxé(e) en présence d'autres personnes.
6. Je crois que je ne suis pas plus nerveux(se) que la plupart des autres personnes lorsque je rencontre quelqu'un que je ne connais pas.

English Speaking Threat

1. Lorsque je parle anglais, j'ai l'impression de perdre mon identité culturelle.
2. Parler anglais ne me fait pas douter de ma capacité de demeurer francophone.
3. Je me sens mal à l'aise lorsque je parle anglais parce que j'ai l'impression de m'assimiler à la culture anglaise.
4. Je ne perd pas mon héritage culturel français lorsque je parle anglais.
5. Je suis sur(e) de moi comme francophone lorsque je parle anglais.
6. Je suis mal à l'aise lorsque je parle anglais parce que j'ai l'impression alors de devenir un(e) Anglais(e).

French Classroom Anxiety

1. Mes genoux tremblent lorsque je parle devant la classe de français.
2. J'ai peur de faire des erreurs lorsque je parle devant la classe de français.
3. Ma voix ne tremble jamais lorsque je parle devant la classe de français.
4. Je ne suis jamais nerveux(se) lorsque je dois parler en classe de français.
5. Je ne suis pas nerveux(se) du tout lorsque toute la classe de français me regarde faire quelque chose.
6. Je suis trop nerveux(se) pour répondre à une question adressée à la classe au cours de français.

English Learning Threat

1. La disponibilité des cours d'anglais permettra aux immigrants de s'intégrer au groupe anglophone.

2. Le fait d'apprendre l'anglais n'aura pas pour effet de diriger de nombreux enfants francophones vers des écoles unilingues anglaises.
3. L'apprentissage de l'anglais à l'école ne donnera pas à cette langue un dangereux avantage sur le français dans le monde économique.
4. A la longue, l'enseignement de l'anglais à l'école aura comme effet l'assimilation culturelle des francophones.
5. Le fait que les Canadiens français apprennent l'anglais n'amènera pas la domination des francophones par la minorité anglophone.
6. L'apprentissage de l'anglais ne procure que des gains matériels en échange de l'assimilation culturelle.

Degree of Manipulativeness

1. Il est important pour moi d'apprendre l'anglais car cela me permettra de devenir un membre influent de la société.
2. Apprendre l'anglais est important pour moi car cela me permettra de contrôler et dominer des individus anglophones.
3. Apprendre l'anglais est important pour moi car parce qu'ainsi je serai considéré(e) comme une personne vraiment éduquée.
4. Apprendre l'anglais est important pour moi parce que cela me permettra d'avoir plus de succès dans l'arène politique.
5. Apprendre l'anglais est important pour moi car cela me permettra de penser et de me comporter comme un Canadien Anglais.

Degree of Integrativeness

1. Il est important pour moi d'apprendre l'anglais car cela me permettra d'être plus à l'aise avec d'autres citoyens canadiens anglophones.
2. Apprendre l'anglais est important pour moi car cela me permettra de mieux apprécier les problèmes des anglophones qui vivent dans un milieu francophone.
3. Il est important pour moi d'apprendre l'anglais car cela me permettra d'avoir des amis anglophones.
4. Apprendre l'anglais est important pour moi car cela me permettra de mieux comprendre les anglophones et leur manière de vivre.
5. Apprendre l'anglais est important pour moi car cela me permettra de voir des films anglais dans leur version originale.

English Learning Anomie

1. Le fait d'apprendre l'anglais me rend moins sûr(e) de moi-même.
2. L'apprentissage de la langue anglaise a pour effet de me dépayser culturellement.
3. Plus j'apprends l'anglais, moins je suis sûr(e) du groupe culturel auquel j'appartiens.
4. L'apprentissage de l'anglais ne me fait pas douter de mon appartenance au groupe francophone.
5. Le fait d'apprendre l'anglais ne me fait pas douter de mon identité culturelle.
6. Même si je connais de plus en plus la langue anglaise, je demeure un membre à part entière de la communauté francophone.

English Test Anxiety

1. Avant de répondre à un examen d'anglais je suis habituellement très confiant(e).
2. Lorsque je réponds à un examen d'anglais, ma nervosité nuit à mon rendement.
3. Pendant un examen d'anglais, mon rythme cardiaque est habituellement bas et stable.
4. Pendant un examen d'anglais, je suis habituellement soucieux.
5. Pendant un examen d'anglais je transpire beaucoup.
6. En comparaison à d'autres étudiants, je ne pense jamais aux moyens d'être dispensé(e) de l'examen d'anglais.

Frequency of Contact

1. Quand j'ai la chance, j'essaie de parler anglais dans les magasins.
2. Lorsque je réponds au téléphone, si quelqu'un me parle en anglais, je lui réponds en anglais.
3. Lorsque je regarde le téléviseur, je préfère les postes anglais.
4. Lorsque l'occasion se présente, j'essaie de parler anglais dans les restaurants.
5. Lorsque je rencontre des personnes anglaises de mon âge, j'essaie de parler anglais avec eux.
6. Lorsque je fais partie d'un groupe et qu'une personne anglaise arrive, j'essaie de changer la conversation à la langue anglaise.

Behavioral Intention to Re-enroll in English

Si vous aviez le choix, prendriez-vous un cours d'anglais l'an prochain?

Définitivement _____ Définitivement
Non Oui

TEST DE RENDEMENT EN ANGLAIS

Instructions Générales

Ce questionnaire fait parti d'un vaste projet de recherche et a pour but de déterminer votre compétence en anglais. Il est important que vous sachiez que votre résultat sur ce questionnaire est confidentiel et ne sera communiqué a aucune autorité scolaire que ce soit votre professeur, le directeur de l'école ou les membres de la CECM. En fait, ce questionnaire fait parti d'un projet de recherche indépendant mené par des étudiants et des professeurs d'université. Le but de ce projet est de déterminer le niveau de connaissance de l'anglais des étudiants du secteur secondaire.

Bien que vos réponses aux questions posées ici n'influenceront en aucune manière votre succès scolaire, il est néanmoins important que vous répondiez à chaque question au meilleur de votre connaissance. Vous n'êtes pas obligés de répondre au questionnaire cependant nous demandons votre collaboration afin que ce projet de recherche soit un succès. Dans ce but, nous vous encourageons donc à répondre de votre mieux à toutes les questions.

Pour répondre aux questions il vous suffit de noircir, la case appropriée sur la feuille de réponse que vous avez détachée.

Par exemple:

	A	B	C	D	E
1.	tire	hire	buyar	fire	finer

Si la bonne réponse à la question numero ①, était "fire", il vous suffirait de noircir la case "D" de la question numero ① sur la feuille de réponse, comme ceci:

Questions	Réponses				
	A	B	C	D	E
1.	☐	☐	☐	☒	☐

120

135

GROUPE 1 (nos 1 à 7)

Pour chacun des numéros 1 à 7, vous entendrez une phrase. Ecoutez-la bien attentivement car elle ne vous sera lue qu'une seule fois. Parmi les 5 mots qui apparaissent sur votre feuillet, trouvez celui que vous avez entendu dans la phrase et indiquez votre réponse en noircissant sur votre feuille de réponses la case correspondant à votre choix. Vous aurez 10 secondes pour inscrire votre réponse.

	A	B	C	D	E
1	nine	time	dime	mime	mine
2	pack	lack	bag	part	park
3	water	pepper	taper	poker	paper
4	noon	soon	spoon	moon	doom
5	weather	sweater	water	winner	winter
6	leave	leaf	live	life	left
7	cough	caught	knot	coat	cut

GROUPE II (nos 8 à 14)

Pour chacun des numéros 8 à 14, vous entendrez une phrase deux fois. Parmi les 5 interprétations que vous trouverez sur votre feuillet, cherchez celle qui correspond le mieux à la phrase entendue. Vous aurez 15 secondes pour indiquer votre choix sur votre feuille de réponses.

8

- ☐ A Paul likes to walk to school.
- ☐ B A taxi picks up Paul every morning.
- ☐ C Everyday, Paul rides to school on his bicycle.
- ☐ D Paul's father drives him to school all year round.
- ☐ E Paul always goes to school by means of public transport.

9

- ☐ A Do not call the police now.
- ☐ B Did you call the police yesterday ?
- ☐ C You will call the police tomorrow.
- ☐ D You ought to call the police at once.
- ☐ E There's no hurry to call the police.

10

- ☐ A Robert is in the hospital.
- ☐ B Do you know if Robert still works here ?
- ☐ C Why was Robert living there ?
- ☐ D Robert is in Toronto for a week.
- ☐ E Would you like to live in Toronto ?

11

- ☐ A We're leaving in an hour.
- ☐ B We're landing in fifteen minutes.
- ☐ C We'll be flying in 30 minutes.
- ☐ D We still have to wait an hour before taking off.
- ☐ E We won't leave before another 45 minutes.

12

- ☐ A She left early but I worked.
- ☐ B She left early and so did I.
- ☐ C She left but I did something else.
- ☐ D She left early by herself.
- ☐ E She left early but I didn't.

13

- ☐ A I don't like the weather.
- ☐ B I may go swimming.
- ☐ C I can't go swimming.
- ☐ D I most certainly won't go swimming.
- ☐ E I hate swimming.

14

- ☐ A They went out with us.
- ☐ B They had an accident.
- ☐ C They visited us.
- ☐ D They brought us a gift.
- ☐ E They called us on the phone.

GROUPE III (nos 15 à 20)

Pour chacun des numéros 15 à 20, vous entendrez un texte qui vous sera lu deux fois. Écoutez-le attentivement, puis trouvez parmi les 5 phrases qui apparaissent sur votre feuillet celle qui ne se rapporte pas au texte lu. Lorsque vous aurez fait votre choix, indiquez votre réponse sur votre feuille de réponses. Vous aurez 15 secondes pour inscrire votre réponse.

15

- A The old man was driven to a hospital.
- B Suddenly, he tripped.
- C An ambulance was called.
- D The man broke his arm.
- E He was walking on the street.

16

- A They agree on most everything.
- B They seldom watch movies together.
- C They both like movies.
- D Their opinion differs when it comes to movies.
- E They often quarrel when they go shopping together.

17

- A My sister was on her way to school.
- B This incident happened yesterday.
- C My sister always walks to school.
- D She went to a garage.
- E It took 30 minutes to repair the flat.

18

- A The forecaster is a man who knows his job.
- B He is a co-pilot.
- C He is a meteorologist.
- D He forecasts the weather.
- E He knows a great deal about winds.

19

- A Appolo 13 had trouble with the LEM.
- B The astronauts were forced back to earth.
- C 13 is an unlucky number.
- D The Appolo 13 mission was not a success.
- E The astronauts lacked oxygen.

20

- A The car was parked in her garage.
- B She looked at the flat tire.
- C The young woman kept her hands clean.
- D Nobody helped her.
- E She was very pleased.

THE MONTREAL HARBOUR

Since the earliest pioneers settled on the Island of Montreal, the harbour has been interwoven (*intimement lié*) in the history of the city. It has been the single most important factor in the development of Montreal as a cosmopolitan centre.

Montreal's twelve-mile harbour spreads east from the foot of McGill Street to the end of the Island.

Montreal is the world's largest inland seaport. Although it is located 1,000 miles from the sea, ocean going vessels are able to reach the harbour without passing through a single manmade lock. Usually the port is open from April to December, but in recent years ice-breakers have succeeded in keeping it open longer. By the way, the city presents a gold cane to the captain of the first ship to dock each year. The entire waterfront is a small world in itself, with its police force, railway system, and towing facilities. The harbour's biggest export commodity (*dénrée*) is wheat, and nothing has been spared to provide the most modern grain facilities.

124

GROUPE IV (nos 21 à 32)

A l'aide du texte, complétez chaque phrase en utilisant l'une des cinq (5) expressions suggérées.

- | | A | B | C | D | E |
|---|----------------|--------------------|--------------------|-----------------------|------------------------|
| 21 The port is now kept open with . . . | salt water | electronic devices | ice-breakers | American money | wheat from the west |
| 22 Our city is . . . | very small | cosmopolitan | without a harbour | wheat growing | a small inland seaport |
| 23 The harbour spreads on a distance of . . . | 20 miles | 7 miles | 12 miles | 13 miles | 30 miles |
| 24 Until a few years ago our port was open . . . | all year round | to the seaway | nine months a year | for towing facilities | by ice-breakers |
| 25 The whole waterfront could easily be compared to . . . | a police force | a railway station | a small city | a skyscraper | an ocean vessel |

- (26) The captain of the first ship to dock each year receives a ...
- | | | | | |
|-----------------|----------|----------|-------------|----------|
| A | B | C | D | E |
| key to the city | a plaque | a reward | a gold cane | a scroll |
- (27) The harbour's distance from the sea is ...
- | | | | | |
|-----------|------------|----------|-----------|-----------|
| A | B | C | D | E |
| 500 miles | 1000 miles | 45 miles | 700 miles | 100 miles |
- (28) The harbour's biggest export commodity is ...
- | | | | | |
|-------|------|-------|-----|-----|
| A | B | C | D | E |
| flour | coal | wheat | ore | oil |
- (29) Montreal's inland seaport is ...
- | | | | | |
|---------------------------------|--------------------------|---------------------------------|--------------------------------|--------------------------------|
| A | B | C | D | E |
| the second largest in the world | the largest in the world | the fourth largest in the world | the tenth largest in the world | the third largest in the world |
- (30) The harbour is equipped with the most modern...
- | | | | | |
|-------------------|-------------|---------------|----------------|------------------|
| A | B | C | D | E |
| towing facilities | lock system | fire stations | docking system | grain facilities |
- (31) Montreal's harbour spreads ...
- | | | | | |
|------|-------|-------|------|------------|
| A | B | C | D | E |
| west | south | north | east | south-east |
- (32) To reach the harbour a vessel passes through...
- | | | | | |
|----------|-------------------|----------|------------|------------|
| A | B | C | D | E |
| one lock | a series of locks | no locks | five locks | two canals |

GROUPE V (nos 33 à 47)

Ces questions ne se rapportent pas au texte.

Pour chacun des numéros 33 à 36, trouvez le mot dont la partie soulignée se prononce différemment.

	A	B	C	D	E
33	hear	herd	curve	bird	flirt
34	two	to	toe	too	tooth
35	wright	right	rite	bite	bid
36	maid	mad	made	main	name

Pour les numéros 37 et 38, parmi les 5 réponses suggérées, choisissez celle qui répond le mieux à la question posée.

- 37 When will John eat in the cafeteria ?
- | | | | | |
|-----------|-----------|------------|-------------|-----------|
| A | B | C | D | E |
| yesterday | last week | last night | last Monday | next week |
- 38 Do you speak English ?
- | | | | | |
|-------------|-----------|-------------|----------------|---------------|
| A | B | C | D | E |
| No I didn't | Yes I was | Yes I spoke | Of course I do | No she didn't |

Pour les numéros 39, 40 et 41, trouvez dans quel ordre on doit placer les éléments pour obtenir une phrase cohérente.

- 39
- 1- nine Canadian families out of ten
 - 2- almost everything they needed
 - 3- one hundred and fifty years ago
 - 4- lived on farms
 - 5- where they grew and made
- 40 _____ going _____ with _____ parents.
1- their 2- they're 3- there
- 41 We gave _____ prizes _____ many _____ Harold.
1- to 2- too 3- two

A	B	C	D	E
3,2,1,4,5	3,4,2,5,1	3,2,4,1,5	3,1,4,5,2	3,2,5,1,4

A	B	C	D	E
1,2,3	3,2,1	2,3,1	2,1,3	3,1,2

A	B	C	D	E
1,2,3	3,2,1	2,3,1	2,1,3	3,1,2

Pour le numéro 42, trouvez la question qui correspond le mieux à la réponse suivante.

- 42 I don't think so, because I had taken a previous engagement.

A	B	C	D	E
Are you coming to the party ?	Was your brother sick ?	How are you today ?	Are you sick today ?	Who is sick ?

Pour le numéro 43, indiquez parmi les réponses suggérées, celle qui signifie la même chose que :

- 43 He has a car.

A	B	C	D	E
he sells his car	he owns a car	he deals with cars	he buys a new car every year	he drives a car

Pour les numéros 44 à 47 inclusivement, indiquez parmi les réponses suggérées, celle qui complète le mieux la phrase donnée.

- 44 It won't be very cold tonight . . .

A	B	C	D	E
will it ?	won't it ?	is it ?	does it ?	didn't it ?

127

- 45 My neighbour is sociable; he doesn't like . . .

A	B	C	D	E
together	gaiety	loneliness	aptitude	groups

- 46 All questions must be answered; none should be . . .

A	B	C	D	E
left out	duplicated	written	introduced	remembered

- 47 If you had left earlier . . .

A	B	C	D	E
you will catch the train	you would catch the train	you caught the train	you would have caught the train	you'd catch the train

APPENDIX D

Correlation Matrix -- Study III

	VAR001	VAR002	VAR003	VAR004	VAR005	VAR006	VAR007	VAR008	VAR009	VAR010
VAR001	1.00000	.03612	-.07351	.01870	-.01763	.07526	.06734	.01520	-.00768	-.05259
VAR002	.03612	1.00000	.55792	.09229	-.09590	.14321	.02587	-.18673	.06700	.56183
VAR003	-.07351	.55792	1.00000	.06858	-.11556	.24778	-.03914	-.36181	-.14323	.50207
VAR004	.01870	.09229	.06858	1.00000	.03788	.40782	.24543	-.00729	.07672	.05038
VAR005	-.01763	-.09590	-.11556	.03788	1.00000	.09295	.25843	.63749	.16285	.23773
VAR006	.07526	.14321	.24778	.40782	.09295	1.00000	.09259	-.01120	-.04708	.18819
VAR007	.06734	.02587	-.03914	.24543	.25843	.09259	1.00000	.34017	.14658	.16300
VAR008	.01520	-.18673	-.36181	-.00729	.63749	-.01120	.34017	1.00000	.22177	.03312
VAR009	-.00768	.06700	-.14323	.07672	.16285	-.04708	.14658	.22177	1.00000	.09929
VAR010	-.05259	.56183	.50207	.05038	.23773	.18819	.16300	.03312	.09929	1.00000
VAR011	.18506	.10185	.00626	.45748	.13531	.26188	.65231	.19866	.09523	.15326
VAR012	.13940	.05333	-.12288	.31941	.10592	.06068	.80059	.29869	.16617	.06169
VAR013	.06719	.50181	.66589	.05149	.05599	.21471	-.00213	-.24678	-.10158	.55546
VAR014	.04378	.49570	.63900	-.01058	-.26671	.20198	-.24366	-.44575	-.19691	.30631
VAR015	.10831	.28647	.44254	.04968	-.00766	.08184	.06997	-.18007	.02597	.33509
VAR016	.09799	.50418	.43337	-.00117	-.27286	.04612	-.07194	-.26528	-.13945	.22061
VAR017	.08295	.28524	.29085	.06001	-.18618	.09072	-.02275	-.16745	-.07192	.15392
VAR018	-.07221	.41485	.49124	-.05412	-.09669	.15274	-.18698	-.29696	.02491	.26132
VAR019	.09633	.41837	.46121	-.15252	-.27645	.03509	-.24966	-.35293	-.06783	.20883
VAR020	.04924	.42438	.31763	-.01965	-.21148	-.00739	-.03317	-.27449	-.08772	.22577
VAR021	.03298	-.20852	.02232	-.12964	-.03507	-.14337	-.07557	-.11792	-.19541	-.13004
VAR022	.04150	-.03907	.17685	-.21821	-.07019	-.03109	-.21114	-.10173	-.17218	.01119
VAR023	.17918	.36520	.30942	-.09702	-.24241	.07613	-.17975	-.27150	-.04993	.20889
VAR024	.06666	-.01786	.13977	-.22172	-.12808	-.09555	-.45939	-.23788	-.03065	.07075
VAR025	-.04293	-.06694	.04830	-.28776	-.12819	.00782	-.55528	-.18860	-.04994	.12547
VAR026	-.02568	-.04879	.13849	-.28318	-.11315	-.15026	-.49277	-.18410	-.12214	.08074
VAR027	-.03304	-.11639	.04324	-.27039	-.07821	-.00893	-.42706	-.15710	-.14713	-.08302
VAR028	.11413	-.03228	-.04370	-.14374	-.22057	.05557	-.42312	-.14981	-.04862	.18275
VAR029	.14407	-.01936	-.04119	-.03992	-.18061	-.01084	-.23971	-.15647	-.01638	.21475
VAR030	.21109	-.12689	-.03433	-.06852	-.37627	.04970	-.36230	-.33180	-.10108	-.26045
VAR031	.00720	-.10608	-.14866	-.07525	-.26172	-.08526	-.19022	-.14364	.02422	.25964
VAR032	.14833	-.14184	-.24324	-.02790	-.31343	-.19021	-.21490	-.13928	.15051	.15725
VAR033	.14505	-.06729	-.17971	.01065	-.21259	-.09130	-.07278	-.01668	.13102	.21581
VAR034	.25237	-.10307	-.04021	-.12248	-.20613	.02950	-.37965	-.16210	.05051	.20739
VAR035	-.01356	.35472	.25942	.00748	-.04662	.08318	-.04458	-.13667	-.11174	.20545
VAR036	.10620	.37145	.26252	-.04759	-.02253	-.02213	.15025	-.09181	-.07223	.30073

	VAR011	VAR012	VAR013	VAR014	VAR015	VAR016	VAR017	VAR018	VAR019	VAR020
VAR001	.14506	.13980	.06719	.04378	.10031	.09799	.08295	-.07221	.09633	.04924
VAR002	.10185	.05333	.50181	.49570	.28447	.50418	.28524	.41485	.41837	.42438
VAR003	.00626	-.12248	.06589	.63900	.44254	.43337	.28085	.49124	.46121	.31763
VAR004	.45748	.31941	.05149	-.01054	.04968	-.00157	.06001	-.05412	-.15252	-.01965
VAR005	.13531	.10592	.05599	-.26671	-.00766	-.27284	-.18618	-.09669	-.27645	-.21148
VAR006	.26148	.06068	.21471	.20198	.08144	.04612	.09072	.15274	.03509	-.00739
VAR007	.65231	.60059	-.00213	-.24366	.06997	-.07194	-.02275	-.18698	-.24966	-.03317
VAR008	.19464	.29869	-.24678	-.44575	-.18007	-.26528	-.16745	-.29696	-.35293	-.27449
VAR009	.09523	.16617	-.10158	-.19691	.02597	-.13945	-.07192	.02441	-.06743	-.08772
VAR010	.15326	.06169	.55546	.30631	.33509	.22061	.15392	.26132	.20883	.22577
VAR011	1.00000	.79474	.05822	-.15148	.11232	.05245	.06019	-.26696	-.21193	.02148
VAR012	.79474	1.00000	-.07475	-.27543	-.01905	.01166	.04732	-.39216	-.26849	.02757
VAR013	.05822	-.07475	1.00000	.53725	.33725	.43708	.37084	.53050	.38874	.37204
VAR014	-.15148	-.27543	.53725	1.00000	.27777	.62963	.29225	.59597	.61400	.50507
VAR015	.11232	-.01905	.58082	.27777	1.00000	.24328	.06766	.29298	.22122	.17673
VAR016	.05245	.01166	.43708	.62963	.24328	1.00000	.34553	.38548	.47741	.60749
VAR017	.06019	.04732	.18044	.29225	.06766	.34553	1.00000	.19004	.27434	.30644
VAR018	-.26696	-.39216	.53050	.29597	.29298	.38548	.19004	1.00000	.55070	.38684
VAR019	-.21193	-.26849	.38874	.61400	.22122	.47741	.27434	.55070	1.00000	.51261
VAR020	.02148	.02757	.37204	.50507	.17673	.60749	.30644	.38684	.51261	1.00000
VAR021	-.13447	-.09648	-.10553	-.02649	-.17885	-.14095	.08918	-.05096	.09815	.02974
VAR022	-.25418	-.27579	.25416	.24960	.09294	.18456	.04830	.37745	.30030	.12059
VAR023	-.06390	-.07787	.22116	.45785	.5926	.48748	.45177	.31129	.48515	.46895
VAR024	-.45379	-.45819	.15760	.33243	.00812	.15936	.16521	.35338	.34854	.08538
VAR025	-.57596	-.58823	.02298	.26092	-.02118	.00167	.02012	.36174	.30977	-.04195
VAR026	-.49975	-.48967	.04662	.33554	-.03031	.08906	.05488	.29651	.33497	.05956
VAR027	-.51338	-.56711	.12946	.29438	.03660	.06347	.07803	.45943	.28287	.01609
VAR028	-.27504	-.29192	-.21245	.05553	-.11880	-.02921	.15658	.12033	.19350	-.05851
VAR029	-.09623	-.09607	-.16960	.13878	.05045	.02738	.15704	.04965	.10764	.02925
VAR030	-.17790	-.23649	-.23938	.18820	-.00365	-.01542	.21123	.09824	.24555	-.05305
VAR031	-.04425	.02735	-.25067	-.04941	-.07279	-.12431	-.00837	-.13409	-.12577	-.15948
VAR032	.02939	.12529	-.29819	-.10927	-.09185	-.04605	-.02284	-.12696	-.04353	-.04259
VAR033	.07904	.18642	-.22696	-.07981	-.05165	-.03331	-.00624	-.14946	-.06970	.00118
VAR034	-.19241	-.11862	-.11700	.06829	.01511	-.06544	.10938	.00815	.06038	-.08927
VAR035	.07603	-.01125	.14783	.31699	.20931	.36283	.21665	.18094	.28927	.28611
VAR036	.16448	.13397	.31527	.25966	.25262	.35463	-.00429	.13171	.25192	.43417

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR001	.03298	.04150	.17918	.04666	-.04293	-.02568	-.03304	.11413	.14407	.21109
VAR002	-.20852	-.03907	.36520	-.01746	-.06694	-.04479	-.11639	-.03228	-.01934	-.12649
VAR003	.02232	.17645	.30942	.13977	.04830	.17449	.08324	-.04370	-.08119	-.03433
VAR004	-.12964	-.21871	-.09702	-.22172	-.28776	-.28318	-.27039	-.14374	-.03992	-.06852
VAR005	-.03507	-.07619	-.24241	-.12808	-.12819	-.11315	-.07821	-.22057	-.18061	-.37627
VAR006	-.14337	-.03109	.07613	-.09555	.00782	-.15026	-.00893	-.05557	-.01084	.04970
VAR007	-.07557	-.21114	-.17975	-.05939	-.55528	-.42777	-.42312	-.42312	-.23971	-.36238
VAR008	-.11792	-.10173	-.27150	-.23748	-.18460	-.14410	-.15710	-.14941	-.15647	-.33180

	VAR021	VAR022	VAR023	VAR024	VAR025	VAR026	VAR027	VAR028	VAR029	VAR030
VAR009	-.19541	-.17218	-.04993	-.03065	-.04994	-.12214	-.14713	-.04862	-.01638	-.10108
VAR010	-.13004	-.01119	-.20889	-.07075	-.12547	-.08074	-.08302	-.18275	-.21475	-.26045
VAR011	-.13487	-.25418	-.06390	-.45379	-.57596	-.49975	-.51338	-.27504	-.09623	-.17790
VAR012	-.09648	-.27579	-.07787	-.45819	-.58023	-.48967	-.56711	-.29192	-.09607	-.23689
VAR013	-.10553	.25416	.22116	.15740	.02298	.04662	.12946	-.21245	-.16960	-.23938
VAR014	-.02649	.24960	.45785	.33843	.26092	.33554	.29438	.05553	.13878	.18820
VAR015	-.17885	.09244	.15926	.00812	-.02118	-.03031	.03660	-.11880	.05065	-.00365
VAR016	-.14095	.18456	.48748	.15936	.00167	.08906	.06547	-.02921	.02738	-.01382
VAR017	.08918	.04810	.45177	.14521	.02012	.05488	.07803	.15658	.15706	.21123
VAR018	-.05096	.37745	.31129	.35338	.36174	.29651	.45983	.12033	.04865	.09824
VAR019	.09815	.30030	.48515	.34854	.30977	.33497	.28287	.19350	.18764	.24555
VAR020	.02974	.12059	.48895	.08538	-.04195	.05956	.01609	-.05851	.02925	-.05305
VAR021	1.00000	.39593	.18928	.36341	.14748	.40195	.41702	.02753	.00399	.03525
VAR022	.39593	1.00000	.16908	.59990	.37125	.56053	.69811	.17981	.08669	.13689
VAR023	.18928	.16908	1.00000	.24784	.10335	.21228	.20354	.05610	.00521	.10275
VAR024	.36341	.59990	.24784	1.00000	.60077	.78202	.77097	.27764	.28334	.36619
VAR025	.14748	.37125	.10335	.60077	1.00000	.64750	.68287	.52102	.34085	.53373
VAR026	.40195	.56053	.21228	.78202	.64750	1.00000	.77320	.33636	.26545	.35548
VAR027	.41702	.69811	.20354	.77097	.68287	.77320	1.00000	.41461	.26366	.38198
VAR028	.02753	.00399	.08669	.13689	.03525	.10275	.13689	1.00000	.41967	.57075
VAR029	.00399	.08669	.00521	.10275	.03525	.10275	.13689	.41967	1.00000	.67932
VAR030	.03525	.13689	.00521	.10275	.03525	.10275	.13689	.41967	.67932	1.00000
VAR031	-.01408	-.02980	.00843	.15300	.22345	.08931	.08074	.45562	.49388	.57108
VAR032	-.01409	.02980	.00843	.15300	.22345	.08931	.08074	.45562	.49388	.57108
VAR033	.05053	-.03242	.12000	.10391	.13086	.24648	.21567	.59712	.54289	.73623
VAR034	.01936	.09254	.15399	.30427	.45491	.06311	.05195	-.02575	.19237	.05619
VAR035	-.02162	-.00597	.36854	.03715	-.06311	.12246	-.19406	-.12115	-.05625	-.09471
VAR036	-.09312	-.09819	.24142	-.15028	-.16044	-.05171				

	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036
VAR001	.00720	.18833	.18505	.25237	-.01356	.10620
VAR002	-.10608	-.14188	-.04729	-.10307	.35472	.37145
VAR003	-.14066	-.24324	-.17971	-.08021	.25942	.26252
VAR004	-.07525	-.02790	.01065	.12288	.00748	-.04759
VAR005	-.26172	-.31343	-.21259	-.20613	-.04662	-.02253
VAR006	-.08526	-.14021	-.09150	.02950	.08318	-.02213
VAR007	-.19022	-.21440	-.07278	-.37965	-.04458	.15025
VAR008	-.14388	-.13928	-.01668	-.16210	-.13667	-.00181
VAR009	.02472	.15051	.13102	.05051	-.11174	-.07223
VAR010	-.25964	-.35725	-.21581	-.20719	.20565	.30873
VAR011	-.04825	.02430	.07904	-.19241	.07603	.16488
VAR012	.02715	.12520	.18642	-.11862	-.01125	.13397
VAR013	-.25067	-.29819	-.22696	-.11700	.18783	.31527
VAR014	-.08981	-.10927	-.07981	.06829	.31659	.25966
VAR015	-.07279	-.09185	-.05165	.01511	.20931	.25262
VAR016	-.12431	-.04605	-.03331	-.04542	.36283	.35463

	VAR031	VAR032	VAR033	VAR034	VAR035	VAR036
VAR017	-.00037	-.02286	-.00628	.10938	.21665	-.00429
VAR018	-.13409	-.12696	-.14946	.00815	.18894	.13171
VAR019	-.12577	-.04353	-.06970	.06038	.28927	.25192
VAR020	-.15998	-.04259	.00118	-.08927	.28611	.43417
VAR021	-.01408	-.01409	.05053	.03936	-.02162	-.09312
VAR022	-.09977	.02990	-.03442	.09294	-.00597	-.09819
VAR023	.06446	.00843	.12000	.15349	.36854	.24142
VAR024	.09455	.15100	.10391	.30427	.03715	-.15828
VAR025	.16463	.22345	.13886	.45491	.06311	-.16044
VAR026	.09453	.12775	.08931	.24648	.12246	-.05171
VAR027	.00141	.02283	.00676	.21567	.05195	-.19906
VAR028	.47552	.45562	.38233	.59712	-.02575	-.12115
VAR029	.50598	.49388	.44131	.54289	.15237	-.05625
VAR030	.52977	.57108	.47864	.73623	.05619	-.09471
VAR031	1.00000	.60493	.65265	.51861	.03358	-.08866
VAR032	.60493	1.00000	.71496	.59516	-.00201	-.12526
VAR033	.65265	.71496	1.00000	.63888	-.06384	-.06461
VAR034	.51861	.59516	.63888	1.00000	.02666	-.10849
VAR035	.03358	-.00201	-.00384	.02666	1.00000	.52558
VAR036	-.08866	-.12526	-.06461	-.10849	.52558	1.00000

APPENDIX E

Reanalysis of the Persistence Models

Deleting the Motivation to Comply (MC) Term

Analysis of Variance Summary Table
 The Prediction of Persistence
 after Deletion of the MC Component

Source	SS	df	MS	F
Definition of Motivation (A)	.135	1	.135	2.294
A x Group (G)	.471	8	.059	
Relationship to Intelligence (B)	.973	2	.487	41.279*
B x G	.189	16	.012	
A x B	.066	2	.033	15.622*
A x B x G	.034	16	.002	
G	2.079	8	.260	

* $p < .01$

Predicting persistence as a function of Definition of Motivation and
Relationship to Intelligence

